Managing the mobile user community.....with Digital Hot*Desk* Technical Overview

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AVAYA communication

12

Agenda

Definitions

Features

Architecture

- Integration/Connectivity
- Replication (Database Redundancy)

Administration

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Types of Number

Location Numbers

Each User may have up to 3 Location Numbers.

Preset Numbers

Each User has 9 Preset Numbers (1 - 9)

Custom Numbers

Any number that is not a Preset Number

Default Location Number

Number that a user's CLN reverts to at "midnight"

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What is a ReRoute ?

Digital Hot*Desk* users may have up to three location numbers, known as *ReRoutes*, where the system tries to contact them before sending the caller into their mailbox.

The actual number of *ReRoutes* available to a user is defined by the System Administrator.

These location numbers may be changed by the Telephone User Interface *TUI*, or via a PC based Graphical User Interface *GUI*.

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Location Numbers

The first location number or ReRoute is known as the 'Current Location Number' or 'CLN' for short.

- The second location number is known as the 'Second Location Number' or 'SLN'.
- The third location number is known as the 'Third Location Number' or 'TLN'.

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What is a Preset ?

Digital Hot*Desk* users may have up to nine numbers, known as Presets, that are stored in a 'personal address book'.

These are the numbers where the user is most often contacted, i.e. their Desk, Home or Mobile, and may be changed via the TUI.

A user may change their Current Location Number to one of these Preset numbers by simply pressing the appropriate digit (1 - 9)

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Announce Called Party

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Tells you who the call is for.

AnswerFirst

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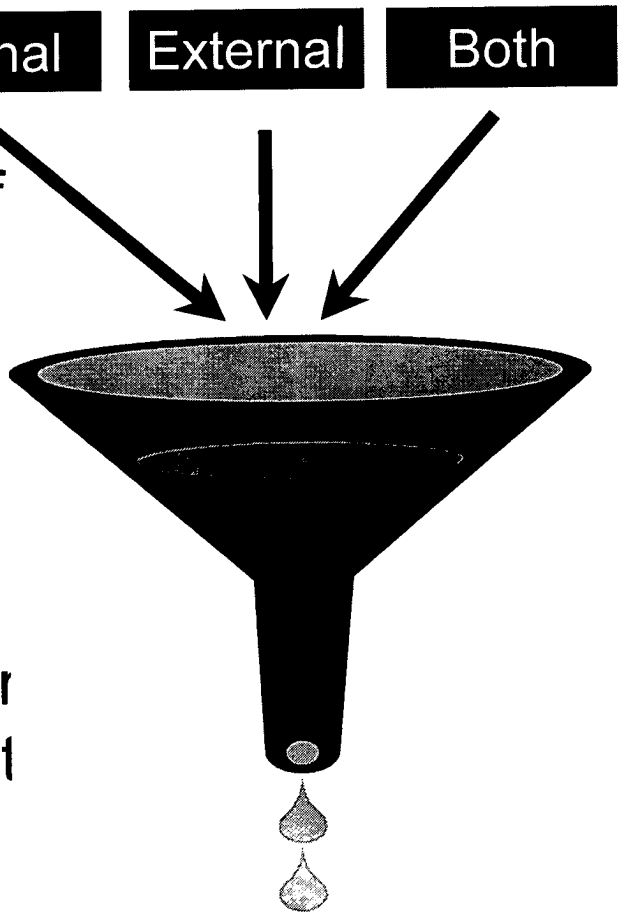
Plays a comfort message to the caller.

Call Filtering



- Option to select filtering of
  - External calls only
  - Internal calls only
  - All calls

  All calls will be directed to Second or Third Location
- Second and Third Locatior owner can transfer call to t user

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Providing.....

Do Not Disturb!

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Only receive calls from 'trusted' numbers.

Call Billing

Attributes Costs to Digital HotDesk Users

Stores the following information about each call:

- UserID
- GroupID
- Date and time the call was connected
- Number Calling / Number Called
- Call Duration
- Port / Channel Used
- etc..

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Cellular Cut-Off

Caller

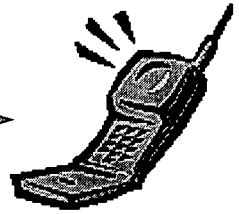
A call HotDesks to your mobile

Caller

Cellular Cut-Off

Caller

The caller is re-connected



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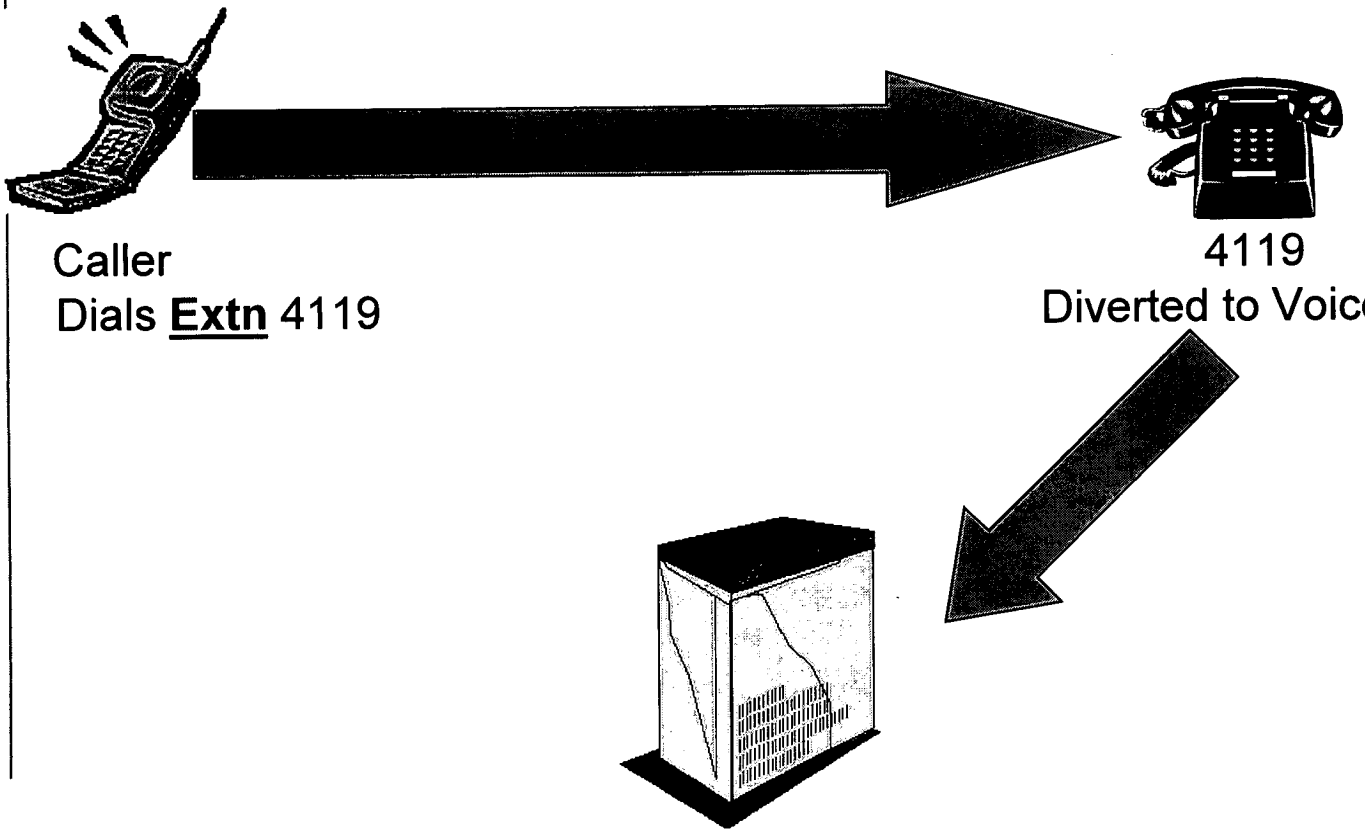
Diversion Override



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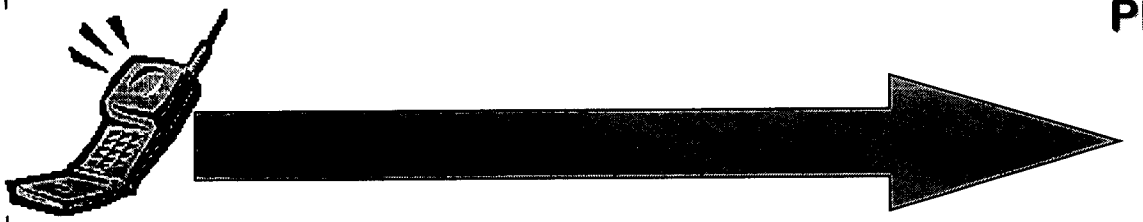
Calls direct to the Extn divert to voice mail.

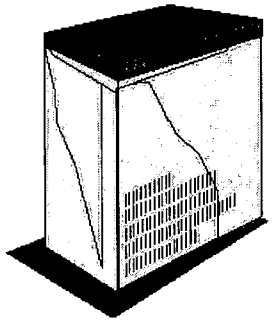
Diversion Override



Phone Rings

Caller
Dials **DHD** 3019

4119
Diverted to Voicemail



*DPNSS ONLY

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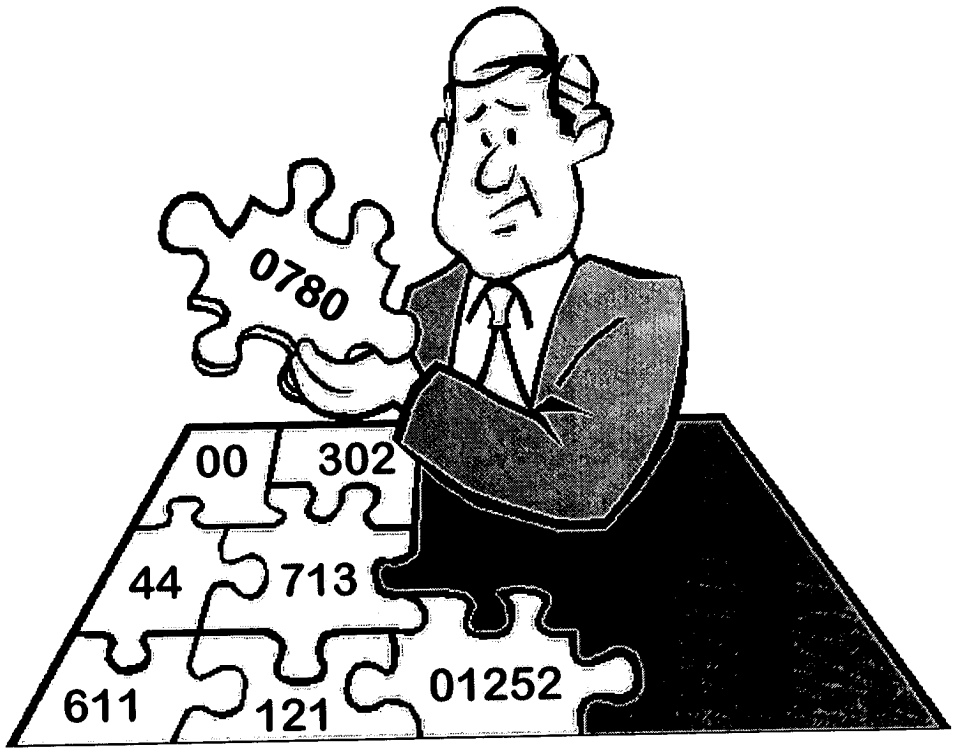
HotDesk calls override the diversion.

Enhanced ANI Matching



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Tries to match caller's ANI to known Nos.

Enhanced ANI Matching

Known number to match = 01252 303870

An incoming ANI might be:

441252303870 **Rule : If length = 12 and starts 441 change the 441 to 01.**

12 digits

01252303870 **Number Matches.**

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Used in Call Filtering,Mobile Toggle,Zero In.

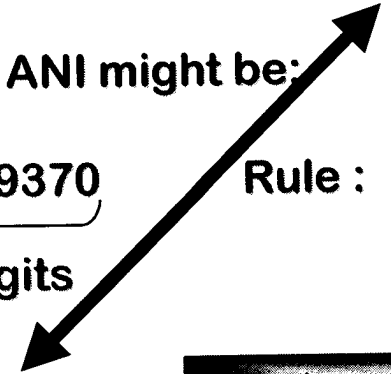
Enhanced ANI Matching

Known number to match = 0780 169370

An incoming ANI might be:

780169370

9 digits



Rule : If length = 9 and starts 7 change the 7 to 07.

0780169370 Number Matches.

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Used in Call Filtering,Mobile Toggle,Zero In.

Error Logging

API.TXT

Detailed log file that records every action within Digital HotDesk.

Call Events

Advanced logging utility for tracing sequence of events in a call.

VT100Events

Log all changes made via the TUI, GUI, Serenade or Mobile Togg

Windows NT Event Logs

Traps NT Operating System and Application problems.

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Designed to assist in Fault Finding.

Group Call

- Mobile Hunt Group application
- Normal DHD re-routes still apply
- Unlimited number of groups.
- Multiple group membership.
- No transfer to members mailbox.
- Linear or cyclical hunting pattern.

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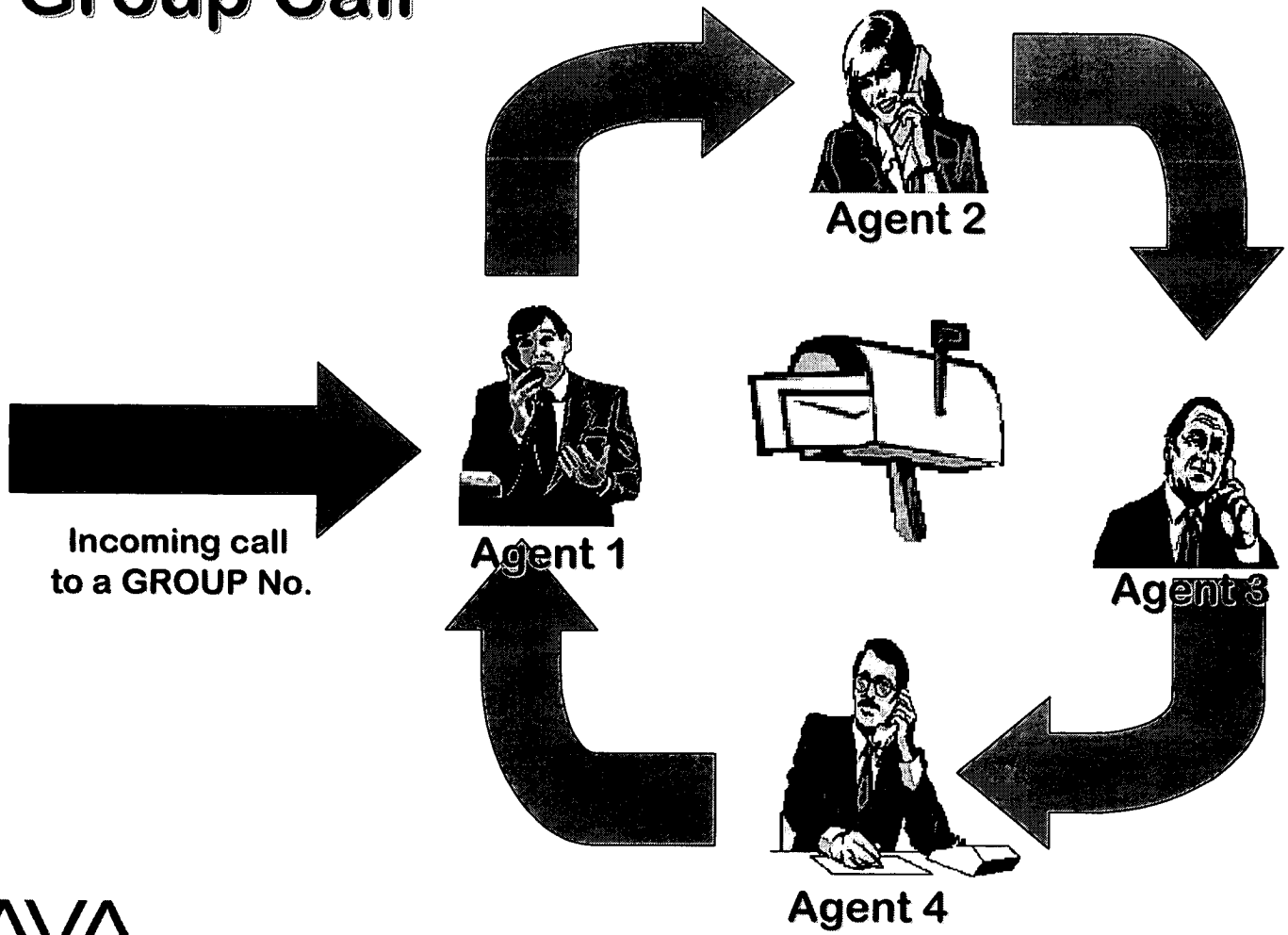
Group Call



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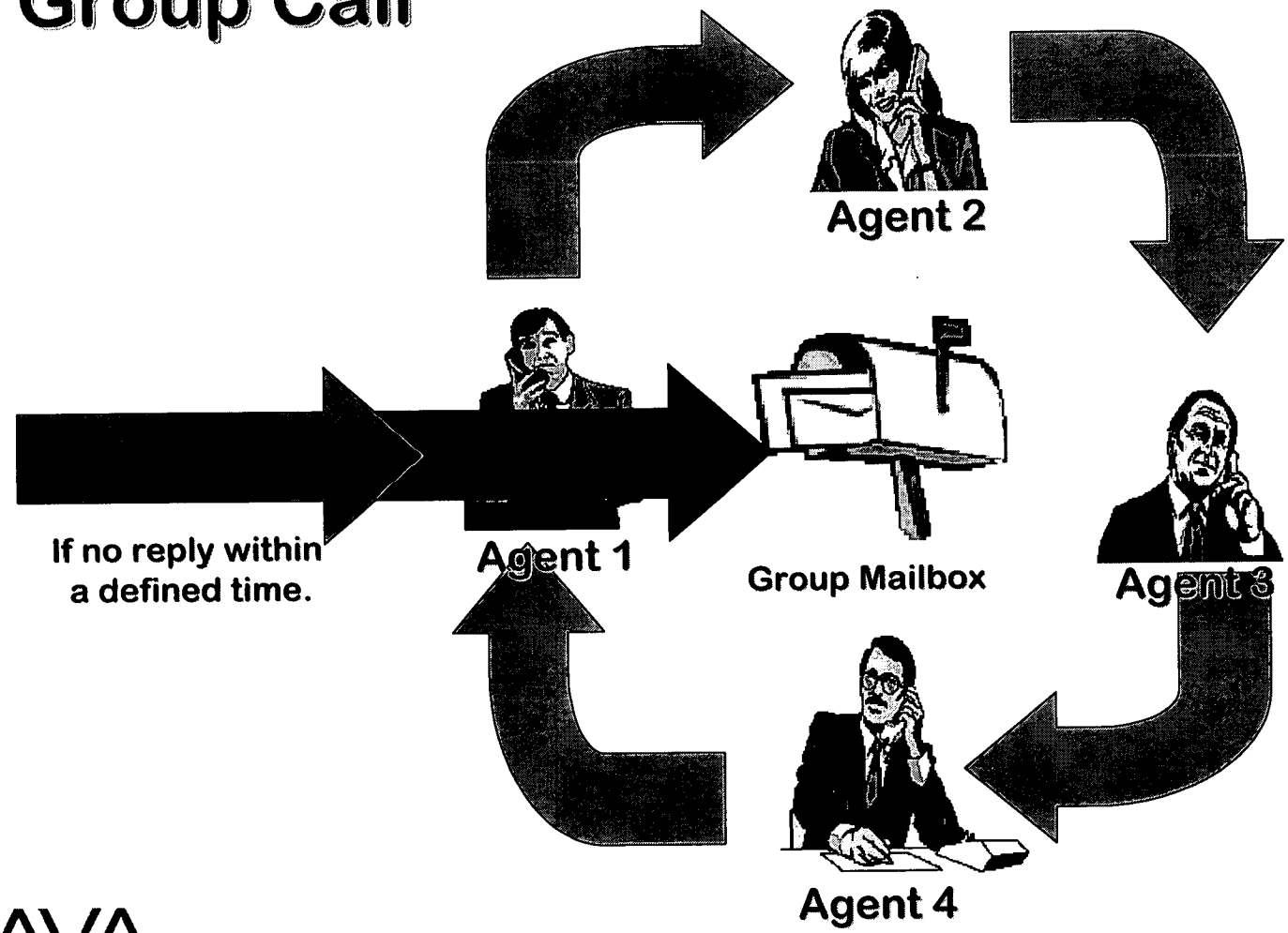
Group Call



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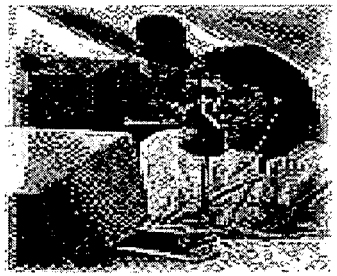
Incoming Caller Options

Based on failure to connect to called party

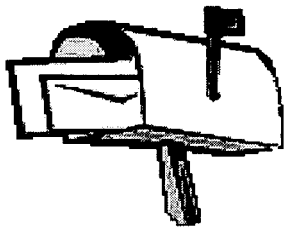
Series of call transfer options for caller connection to..

Operator



Call Centre

Secretary



Voicemail

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Gives the caller options prior to voice mail.

Languages

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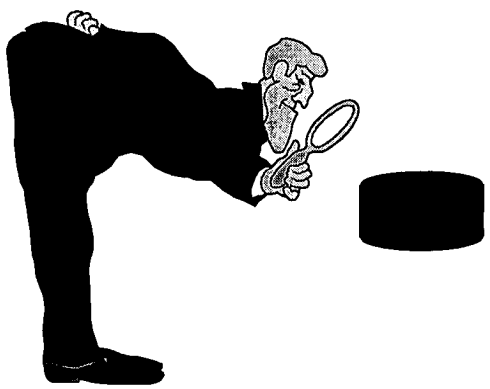
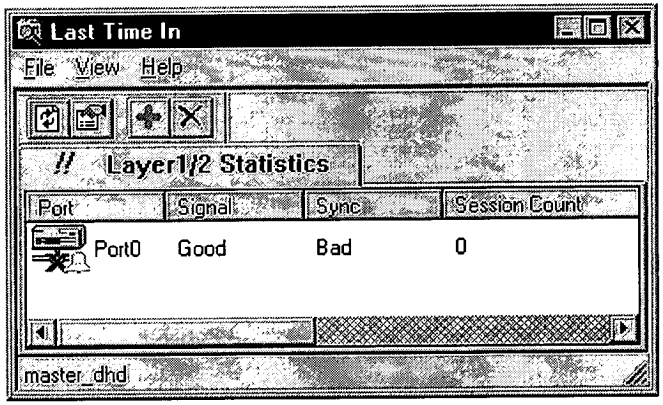
Link Alarm

Hot*Desk* Watchdog monitors the link between the database and the application.





If a problem is encountered a Link Alarm is raised to the PABX, preventing further calls being accepted.

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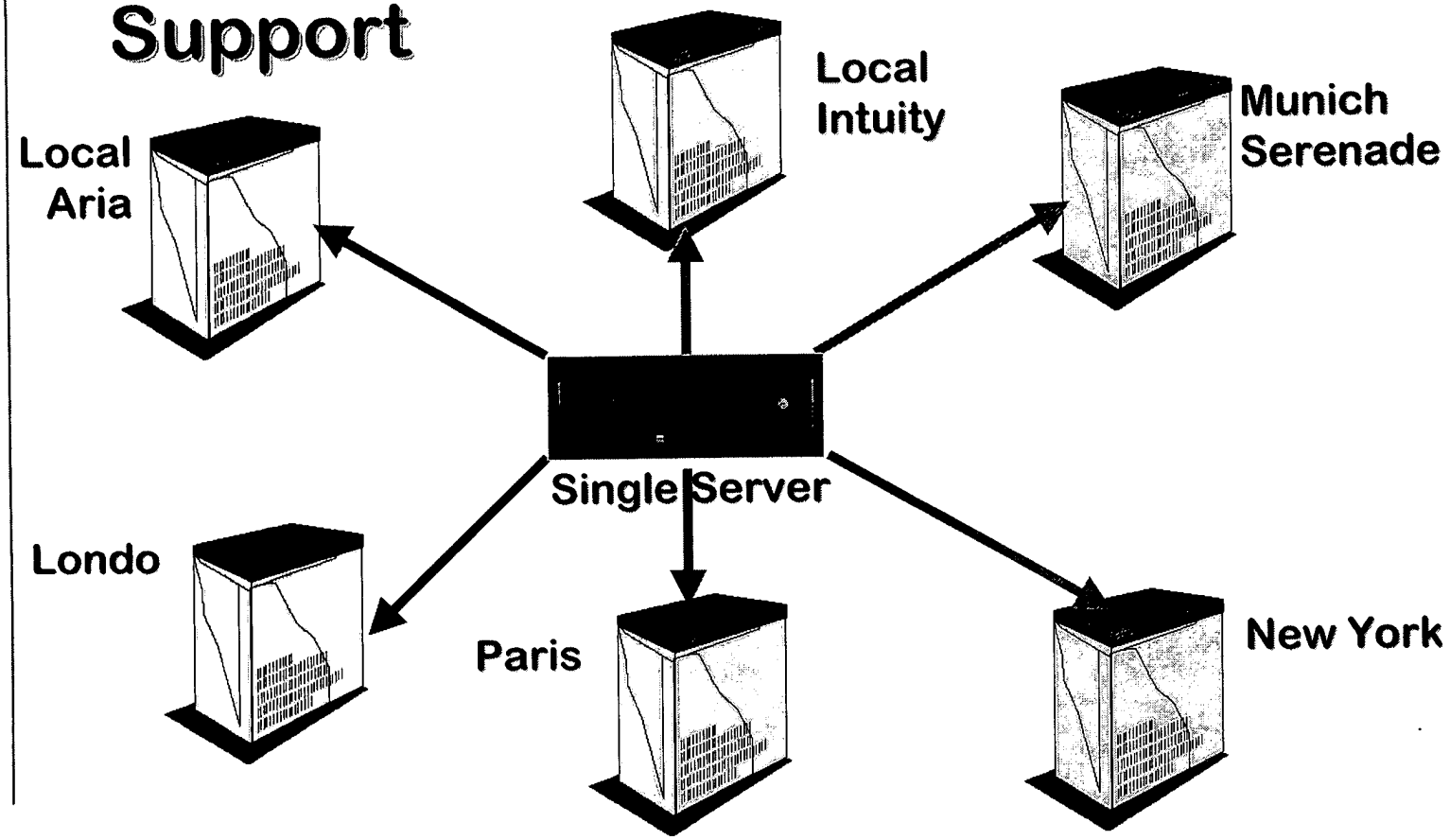
Multiple Voicemail Support



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One Hot*Desk* can support multiple VMs.

PIN Acceptance of Calls

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Only the correct person can answer the call.

PIN Access

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Secures the TUI against unauthorised use.

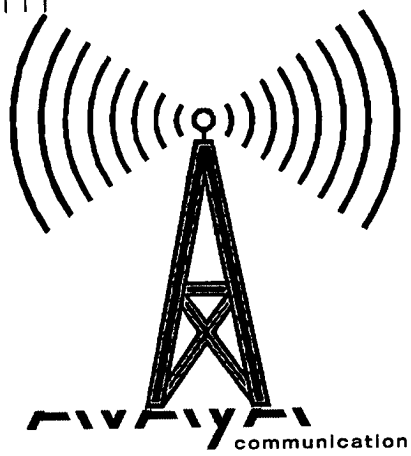
Protocols

Digital Hot*Desk* supports the following protocols:

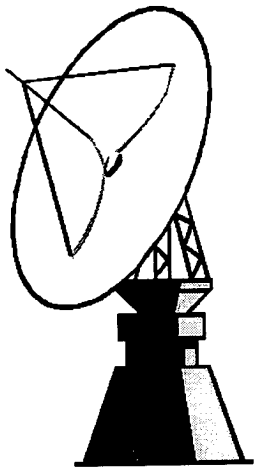
E1 Qsig - 15 Channels In / 15 Channels Out

T1 Qsig - 11 Channels In / 11 Channels Out

E1 DPNSS - 15 Channels In / 15 Channels Out



Dependant on Conferencing



ANTI TROMBONING

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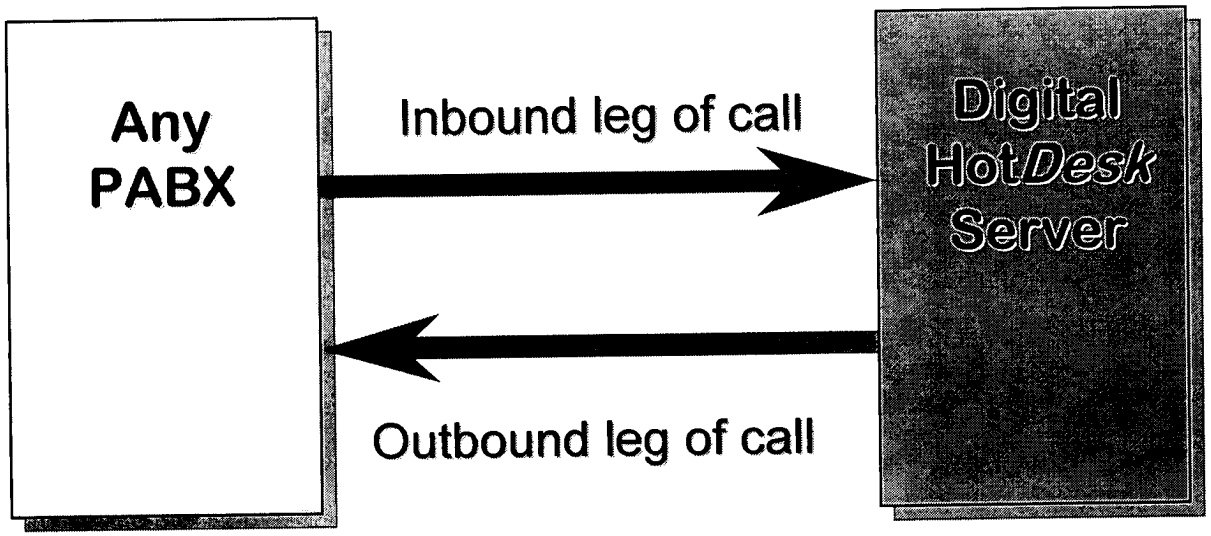
Route Optimisation



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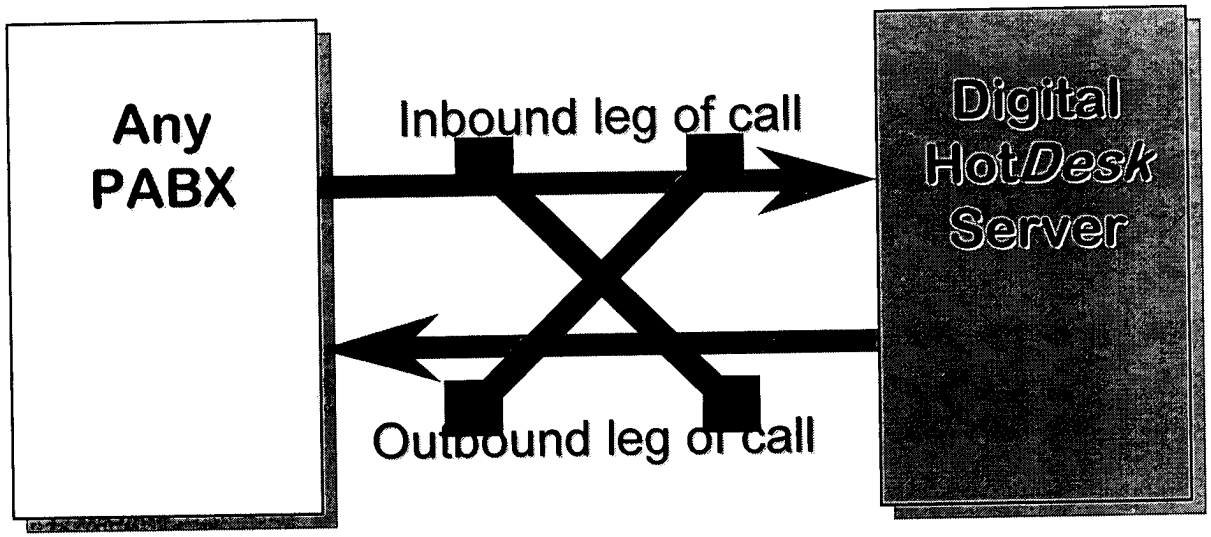
No Optimisation = Hot*Desk* stays in the call.

Route Optimisation



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Optimising 'frees' channels for more calls.

Intelligent Optimisation

Digital Hot*Desk* 2.5 optimises the call depending on the type of call and the Class of Service of the user.

Certain features require that Digital Hot*Desk* stays present for the duration of the call.

Optimisation is controlled by the PABX. Digital Hot*Desk* will either allow the optimisation to happen, or it will stop the optimisation, if the user has a configuration setting that requires it to be present for the duration of the call.

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What Stops Optimisation

If a user is SNUPHF enabled, the call will not optimise for a 5 second period after the call is answered.

If MidCallTransfer is enabled in a user's ClassOfService.

When a user makes a SecureCall and VoiceRecorder is enabled in the Site.

If Cellular Cut-Off is enabled in a user's ClassOfService.

If a Vortex feature is enabled in a user's ClassOfService.

Group Calls.

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What Causes Optimisation

In all other cases Digital Hot*Desk* server will pass the optimisation request from the PABX.

But..

It's important to remember that..

NOT ALL CALLS CAN OPTIMISE.

It is not under control of Digital Hot*Desk*.

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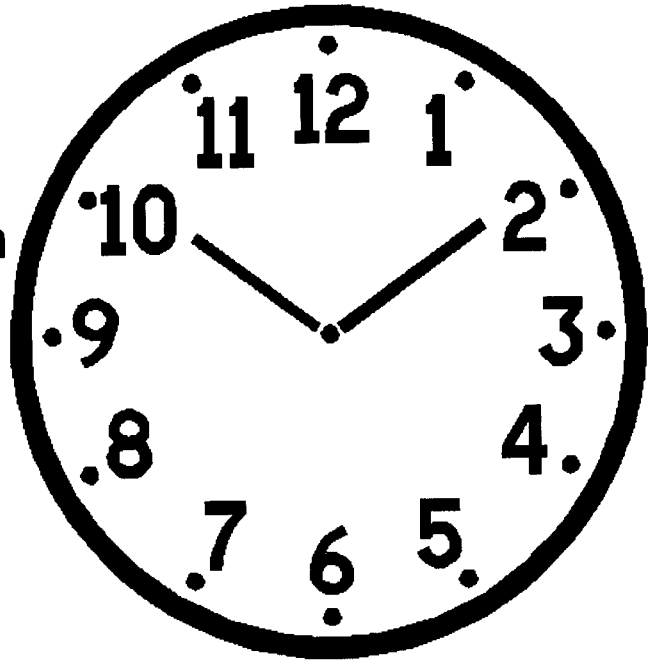
Midnight Reset (Scheduler)

Users may define the time that their Current Location Number changes.

DHD time = local time.



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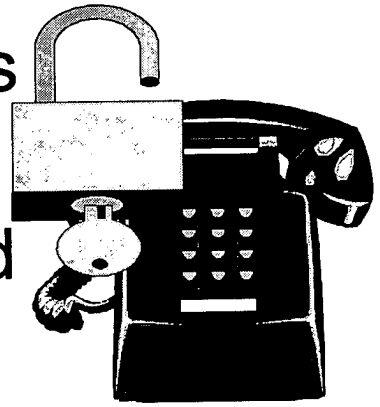
Suited to the international traveller.

Secure Call

Provides capability for HotDesk user to call any permitted destination

User selects option and enters number for system to validate



Invalid number will be rejected with an appropriate message

e.g. - ***Number barred***

- ***Invalid Number***

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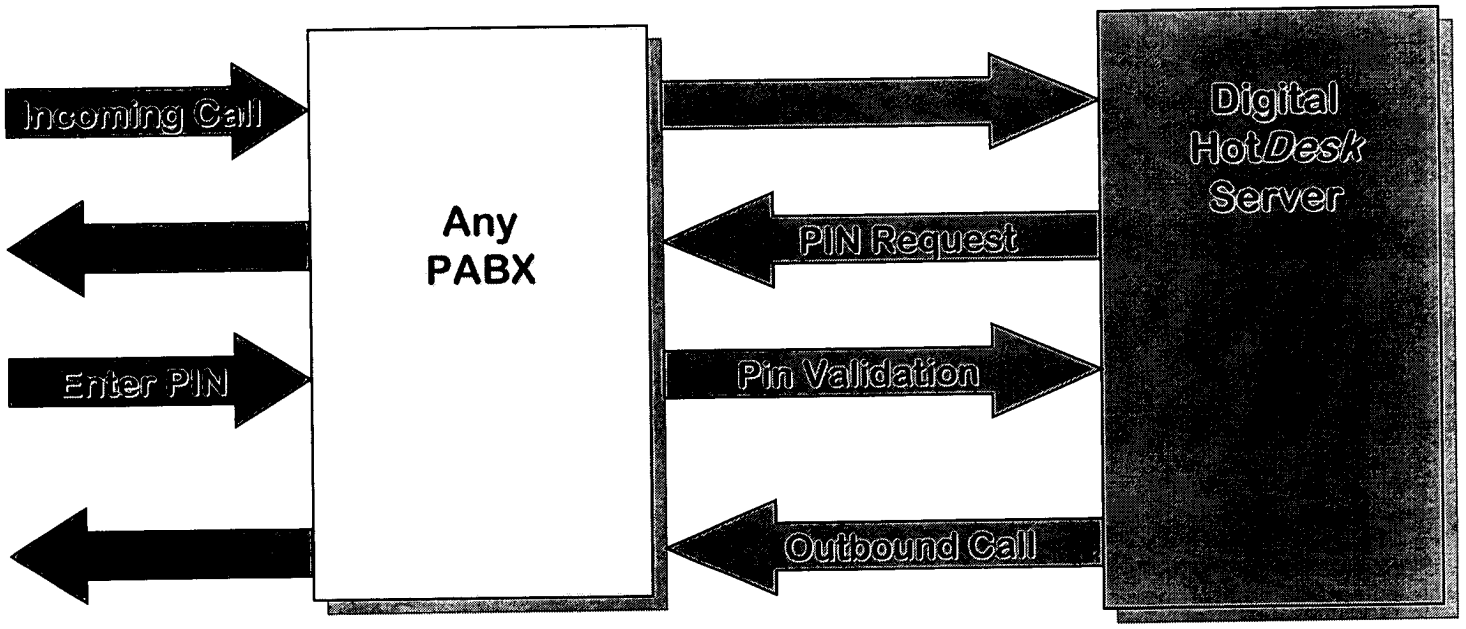
Secure access to make outbound calls.

Secure Call



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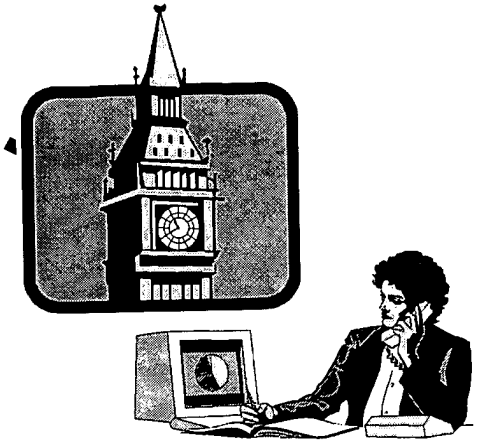
Billing record against the Hot*Desk* user.

Secure Call Uses

International Call
at Hotel rates



Hotel call charges are £££/$$$.

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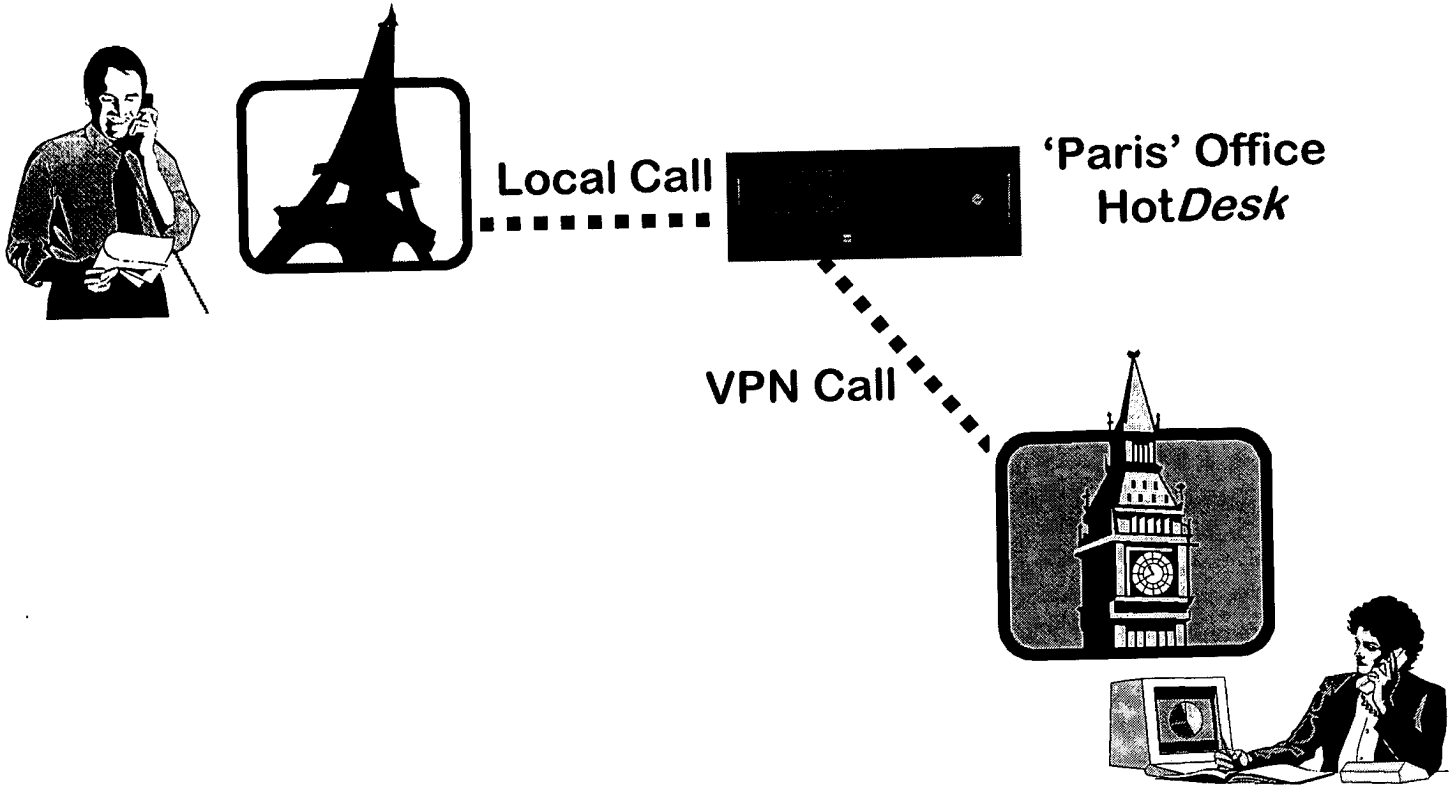
Secure Call Uses



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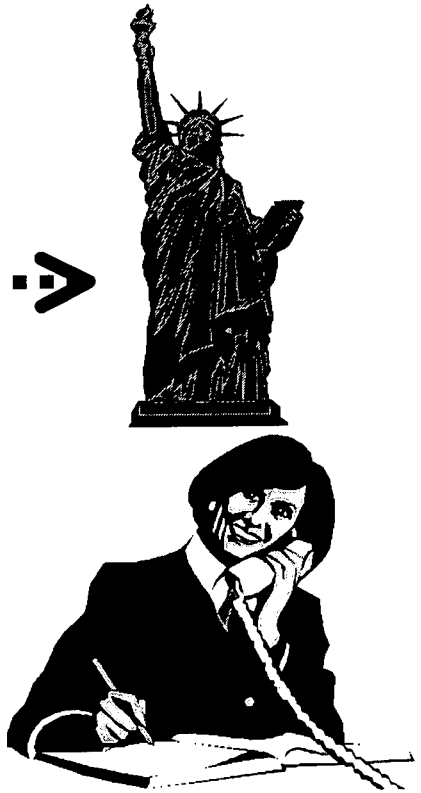
Calling via Hot*Desk* can save £££/$$$.

Secure Call Uses

International Call to USA
office from a Mobile in Italy



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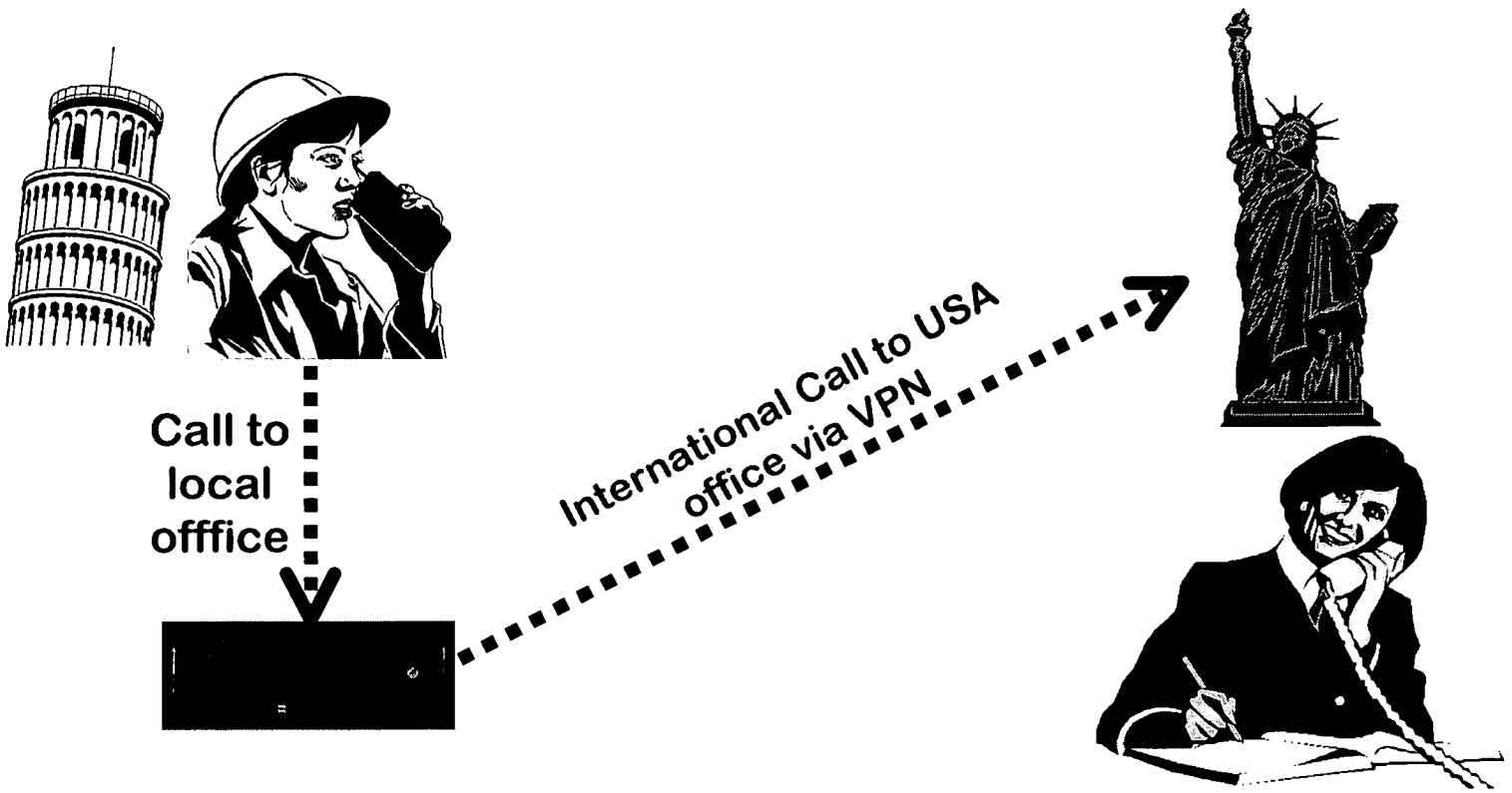
International mobile calls cost £££/$$$.

Secure Call Uses



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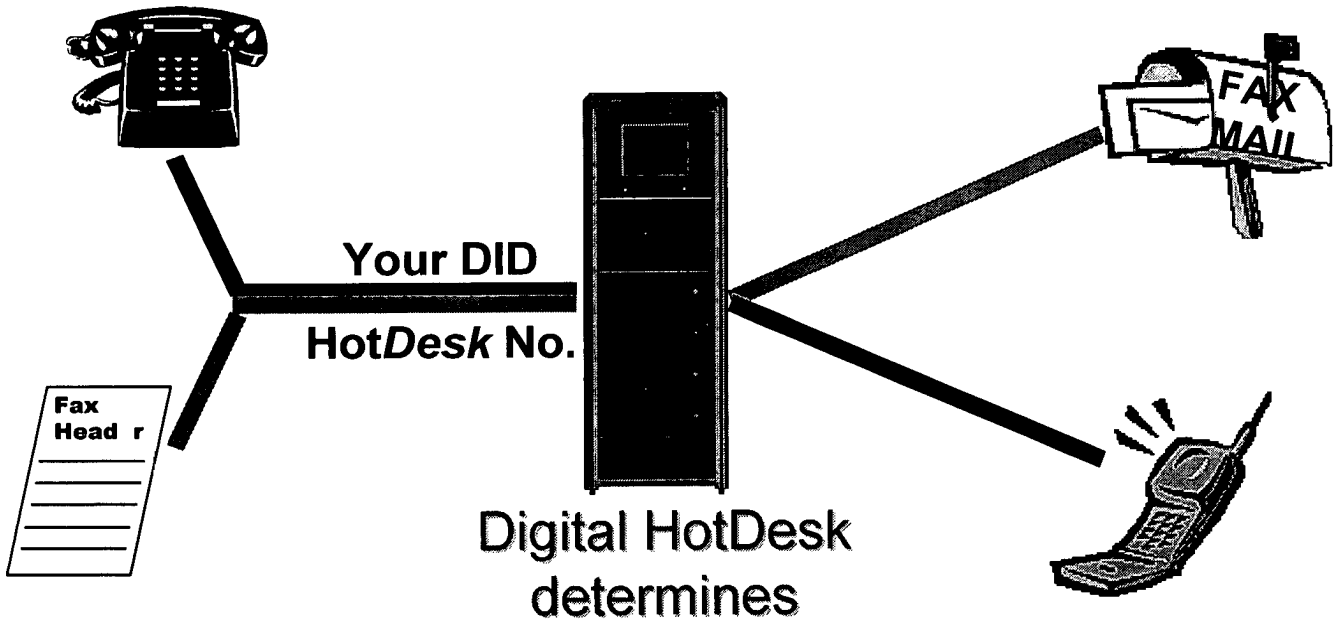
Local call is cheap, international call 'free'.

Single Number Phone & Fax



Digital HotDesk
determines
what is a fax and
what is a phone call

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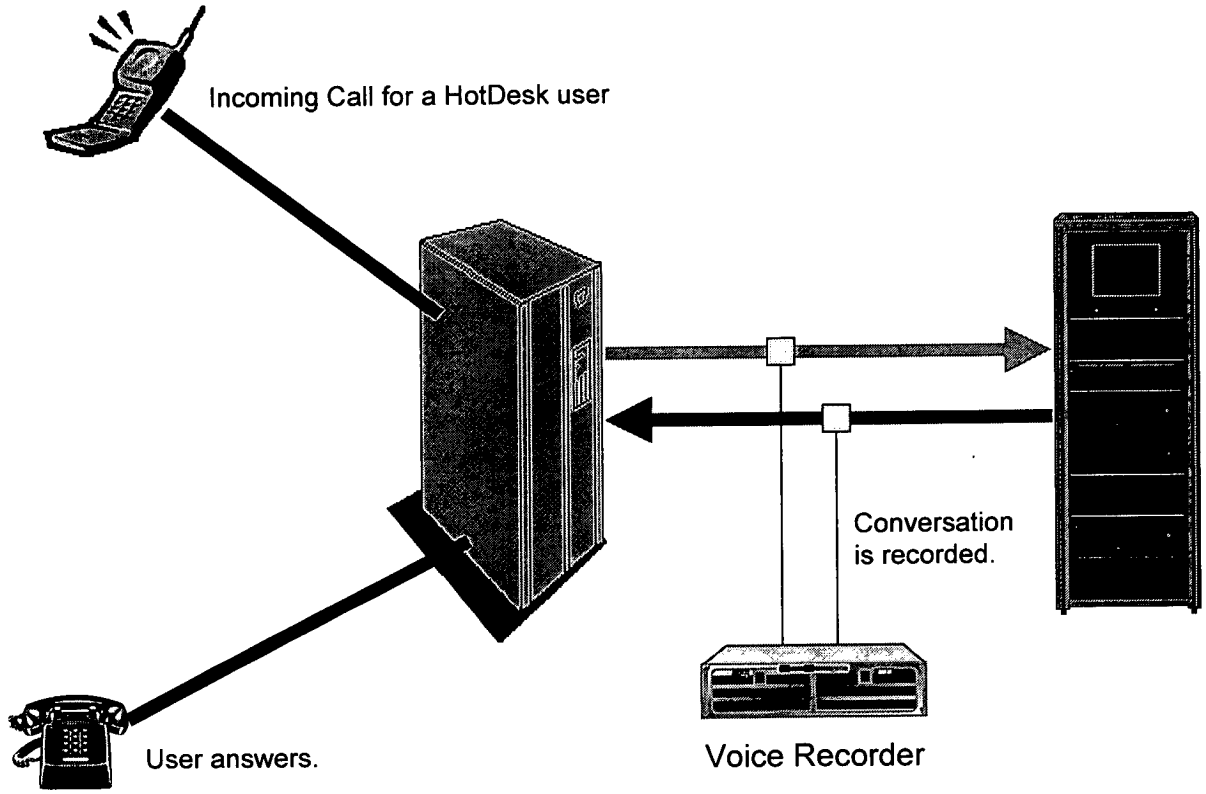
Voice Recording



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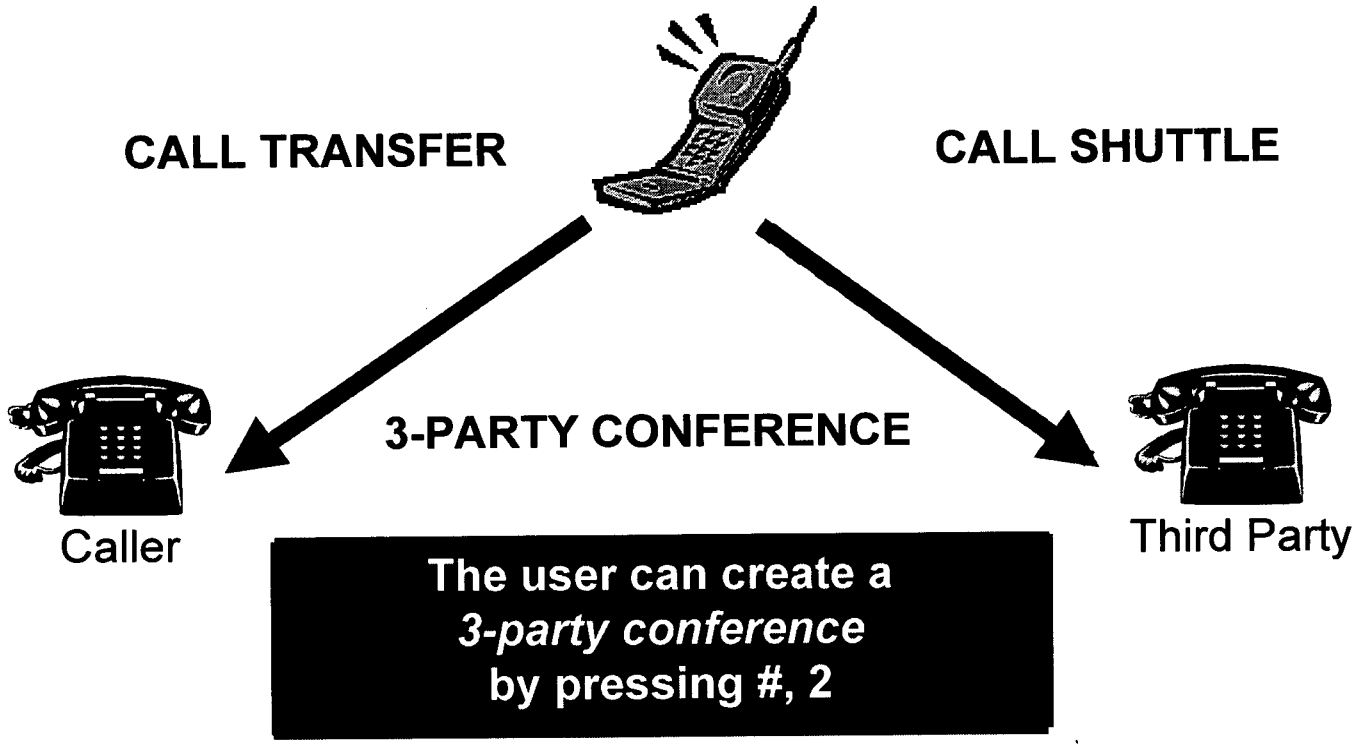
This prevents the call from optimising.

Vortex
(Transfer, Shuttle, 3-Party Conferen



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Zero In

Designed to allow users to have calls re-directed to any permissible location

- **Option accessible via TUI requiring user ID/Password**
- **Feature can be enabled in user's Class of Service**
- **Dependent on Site Number Rules**
- **ANI recognition essential**

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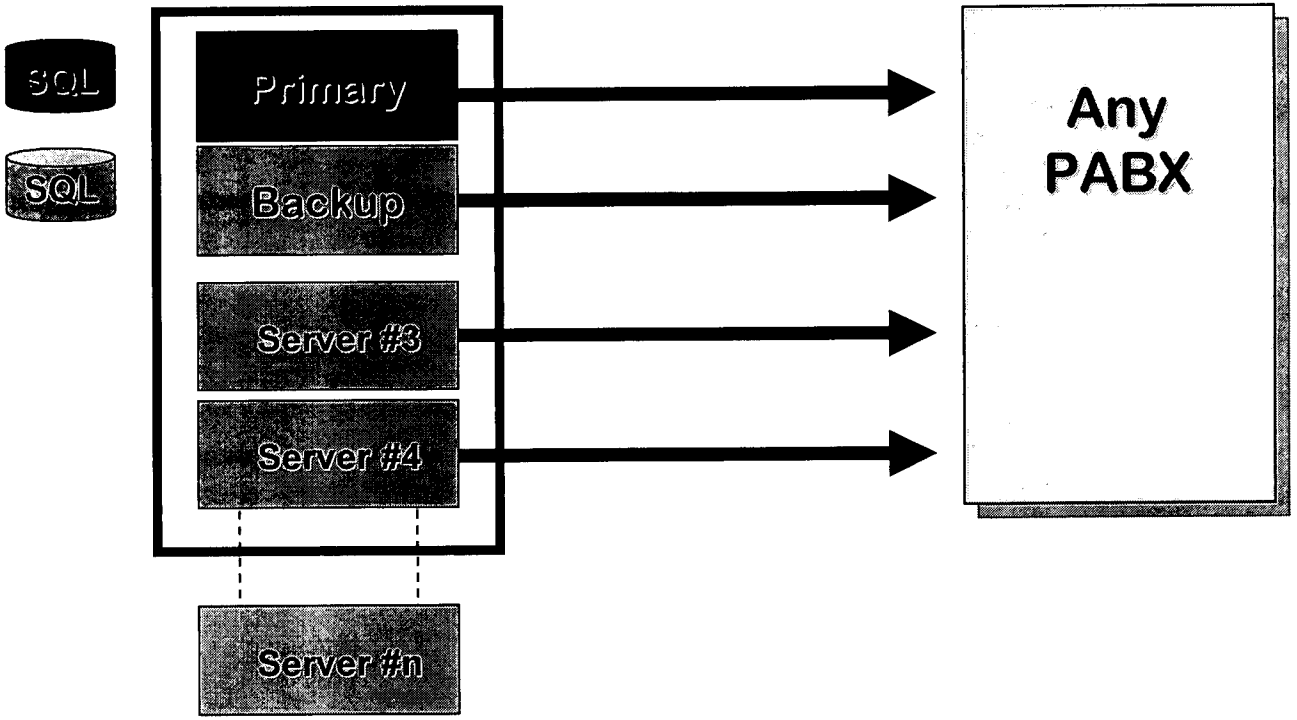
Types of Hot*Desk* Server



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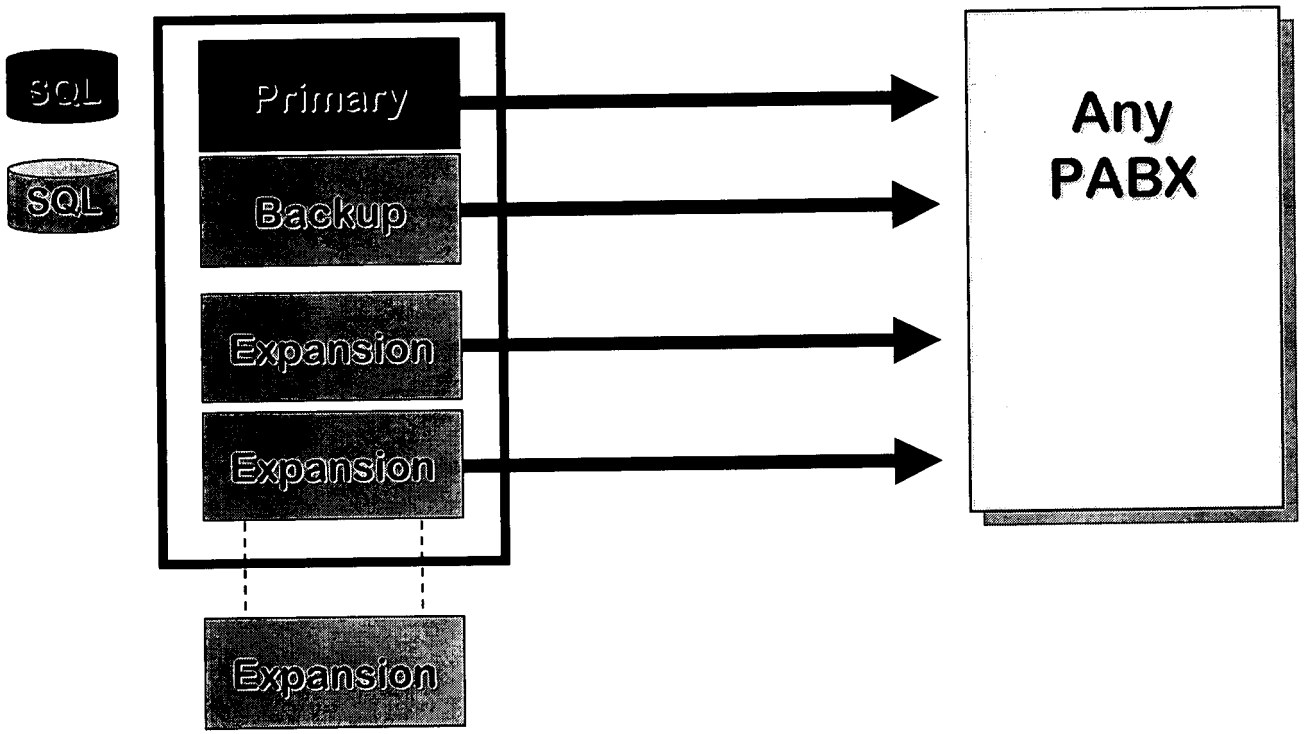

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Server Comparison

Primary / Backup

Windows NT 4.0 Server
Service Pack 4
SQL Server 7.0
pcANYWHERE v8.0
Digital HotDesk App.

• Expansion Server

- Windows NT Workstation
- Service Pack 4
- pcANYWHERE v8.0
- Digital HotDesk App.

The hardware is identical

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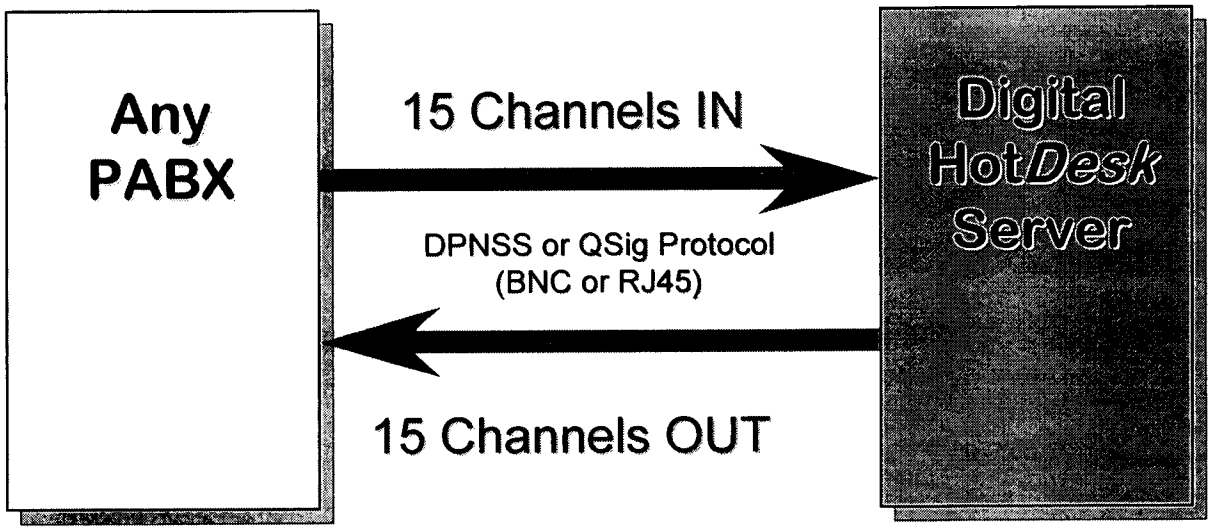
Standard Connection



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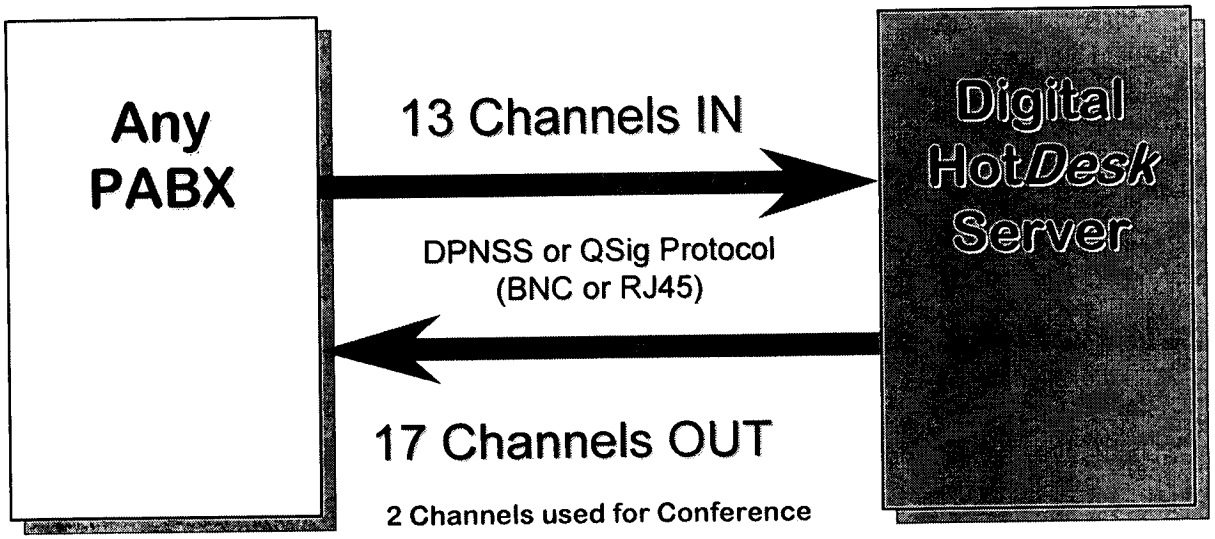
Corporate Telephone System

Conferencing Enabled



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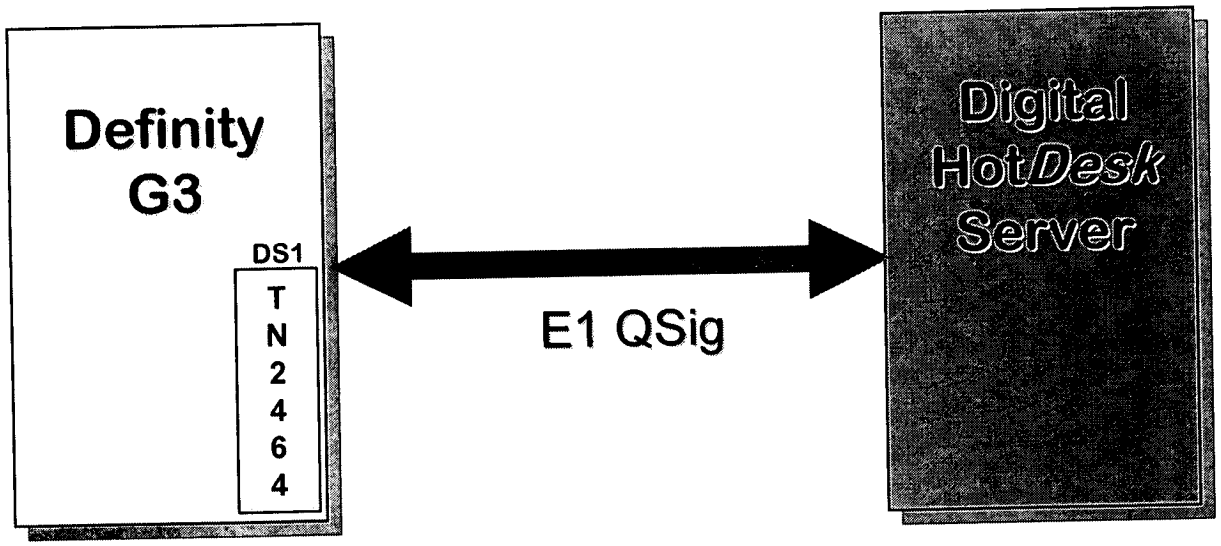
Corporate Telephone System

Connection to a Definity

Our current method of integration requires:

- QSIG, Private Networking, and UDP software activated.
- DS1 and an 888B coax adapter.



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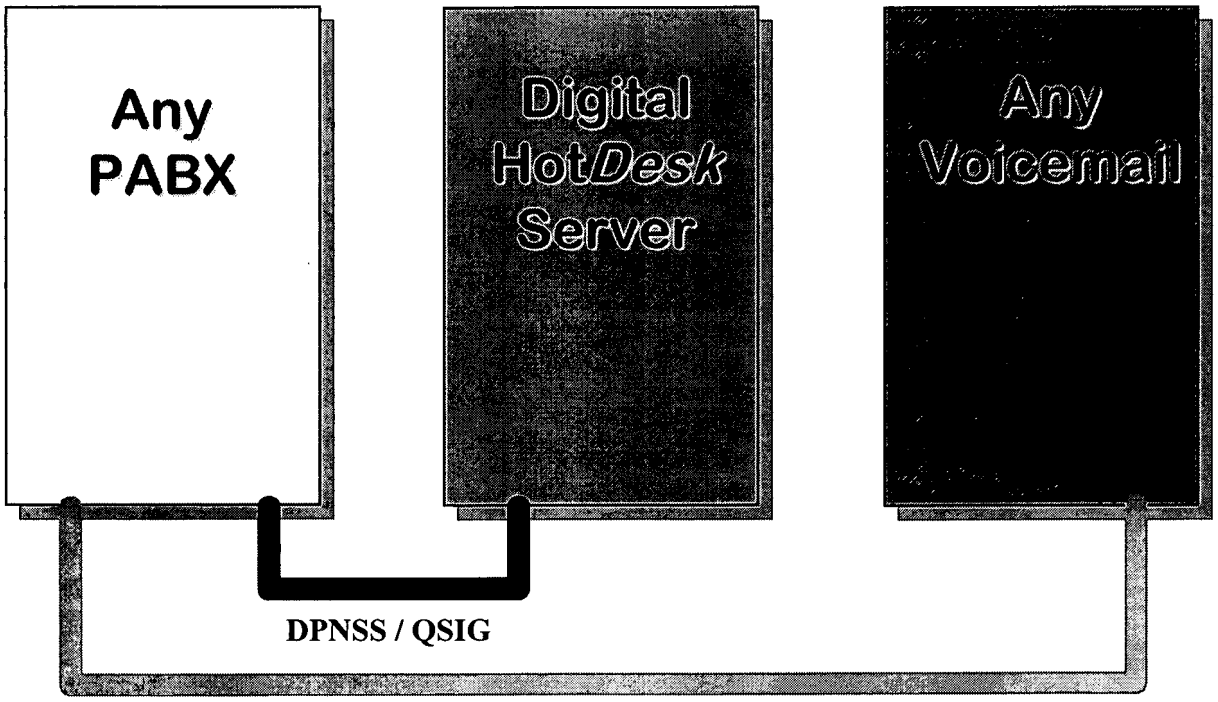
Corporate Telephone System

Connection to Voicemail



Any type of integration

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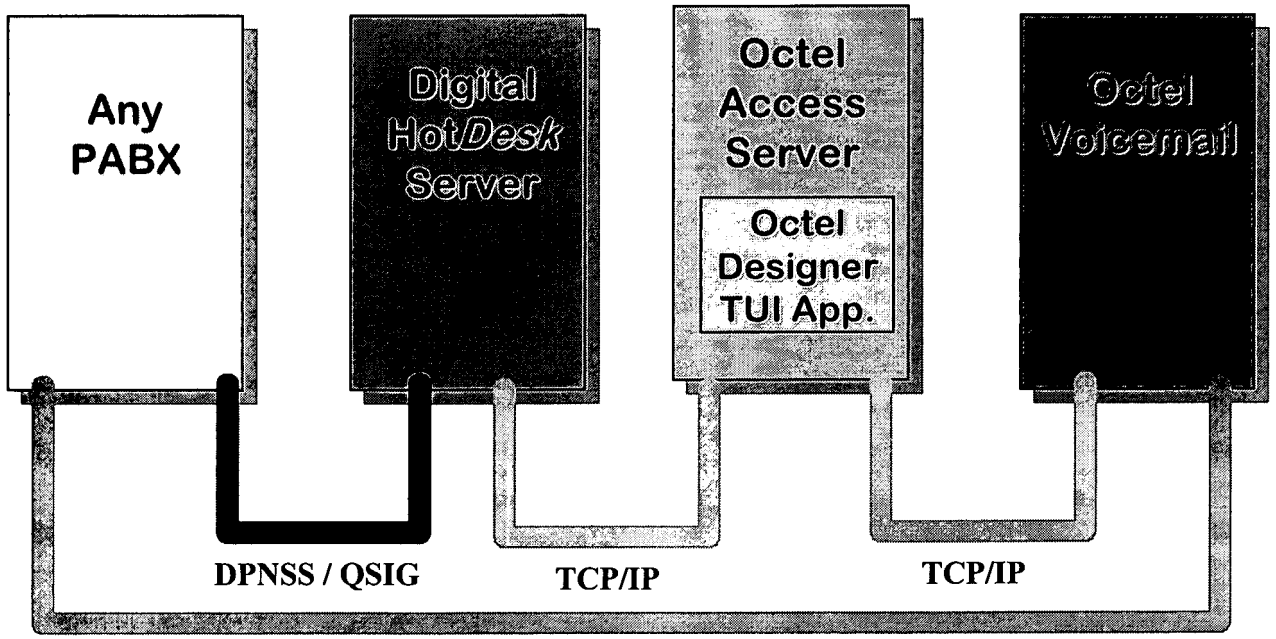
Voice mail Interface

Connection to Octel VM



Any type of integration

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Voice mail Interface

THE NEED FOR REPLICATION

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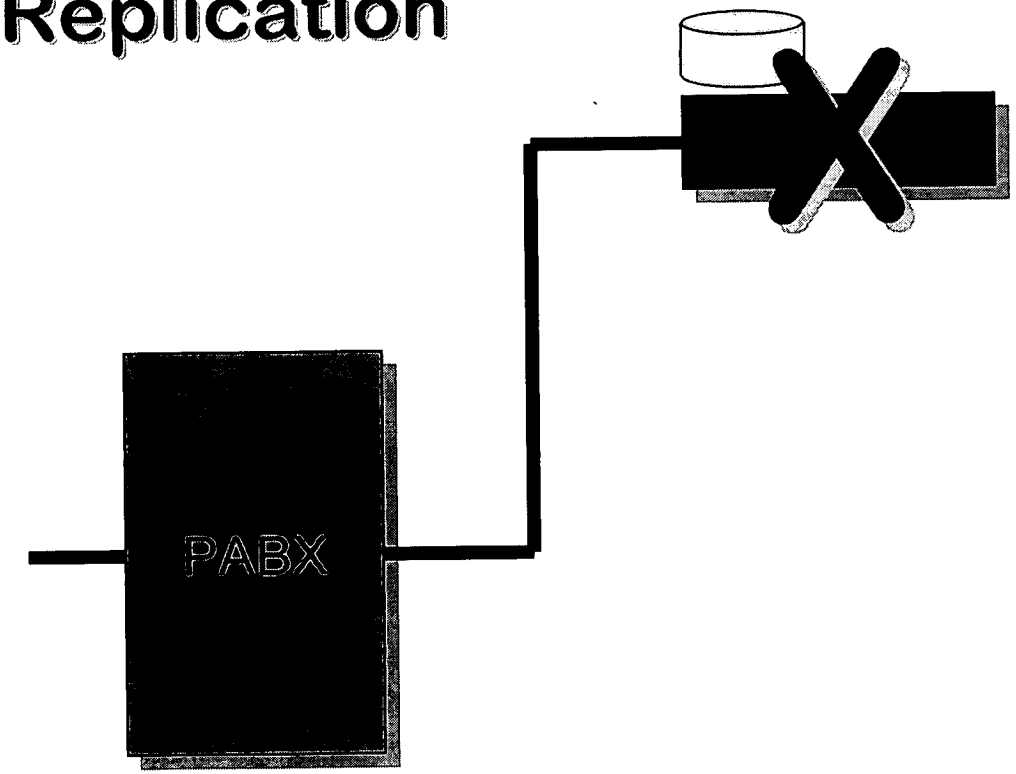
Replication



- Total Loss of Call Handling Capability.
- Total Loss of Update Capability.
- Total Loss of Availability.

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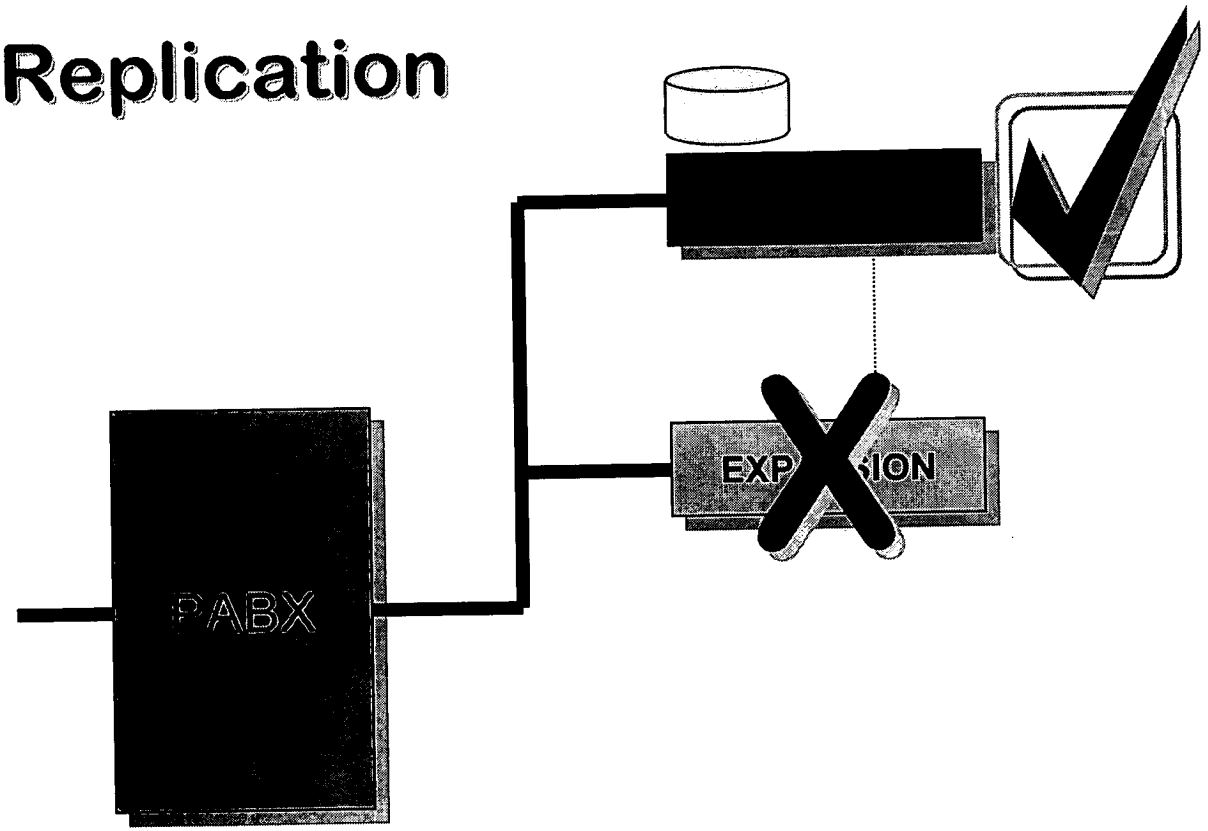
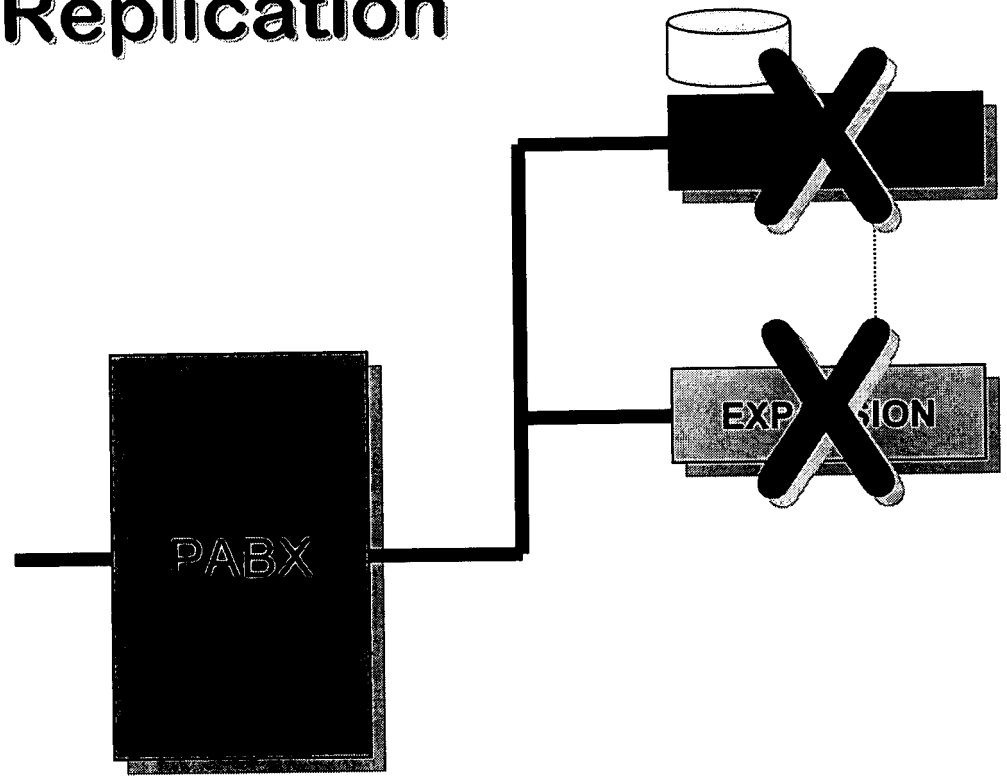
Replication



- 50% Loss of Call Handling Capability.
- No Loss of Update Capability.
- No loss of Availability.

AVAYA communication

Replication



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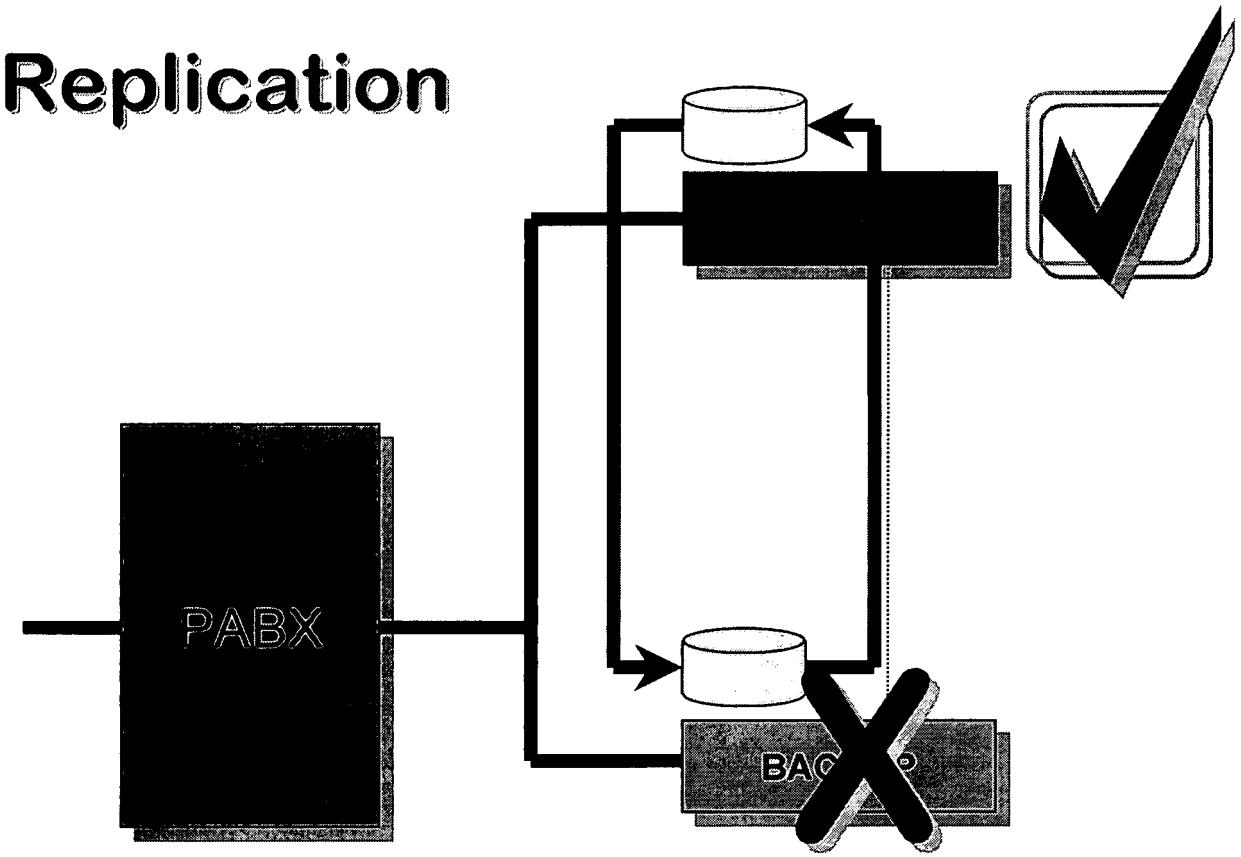
AVAYA communication

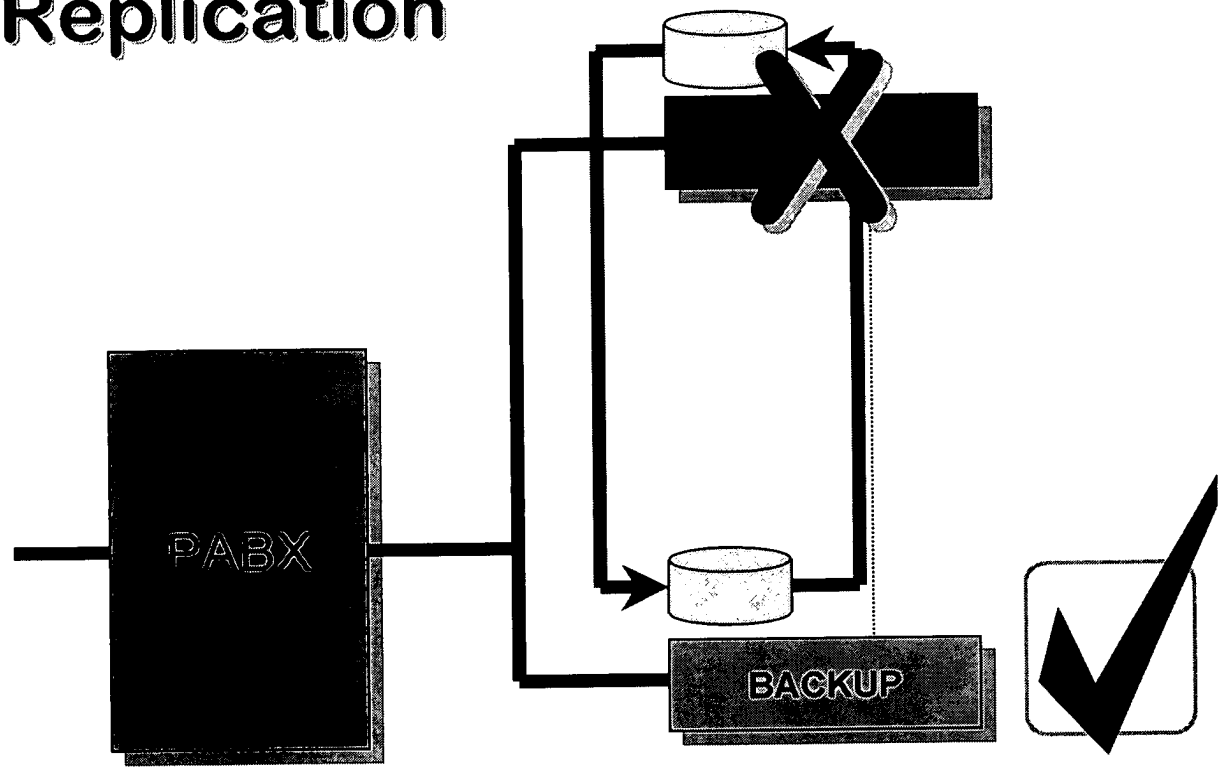
Replication



- 50% Loss of Call Handling Capability.
- No Loss of Update Capability.
- No Loss of Availability.

AVAYA communication

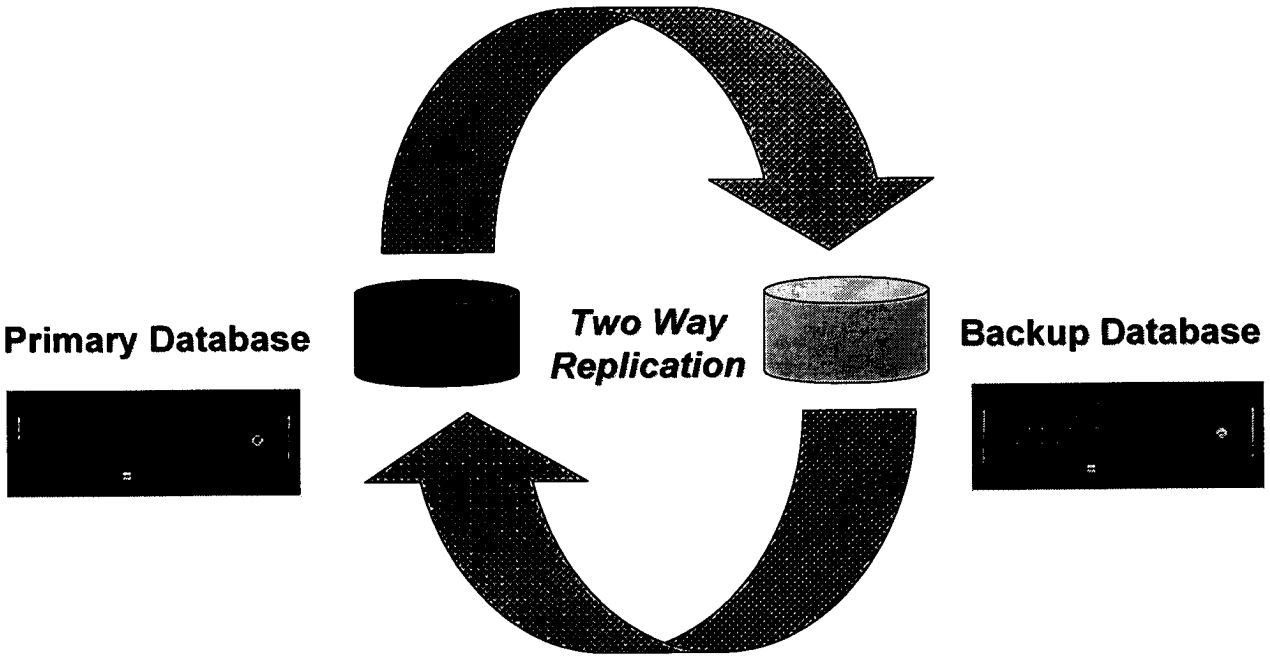
Replication



- 50% Loss of Call Handling Capability.
- No Loss of TUI / MTI Update Capability.
- Total Loss of OAS / GUI / DTI Availability.

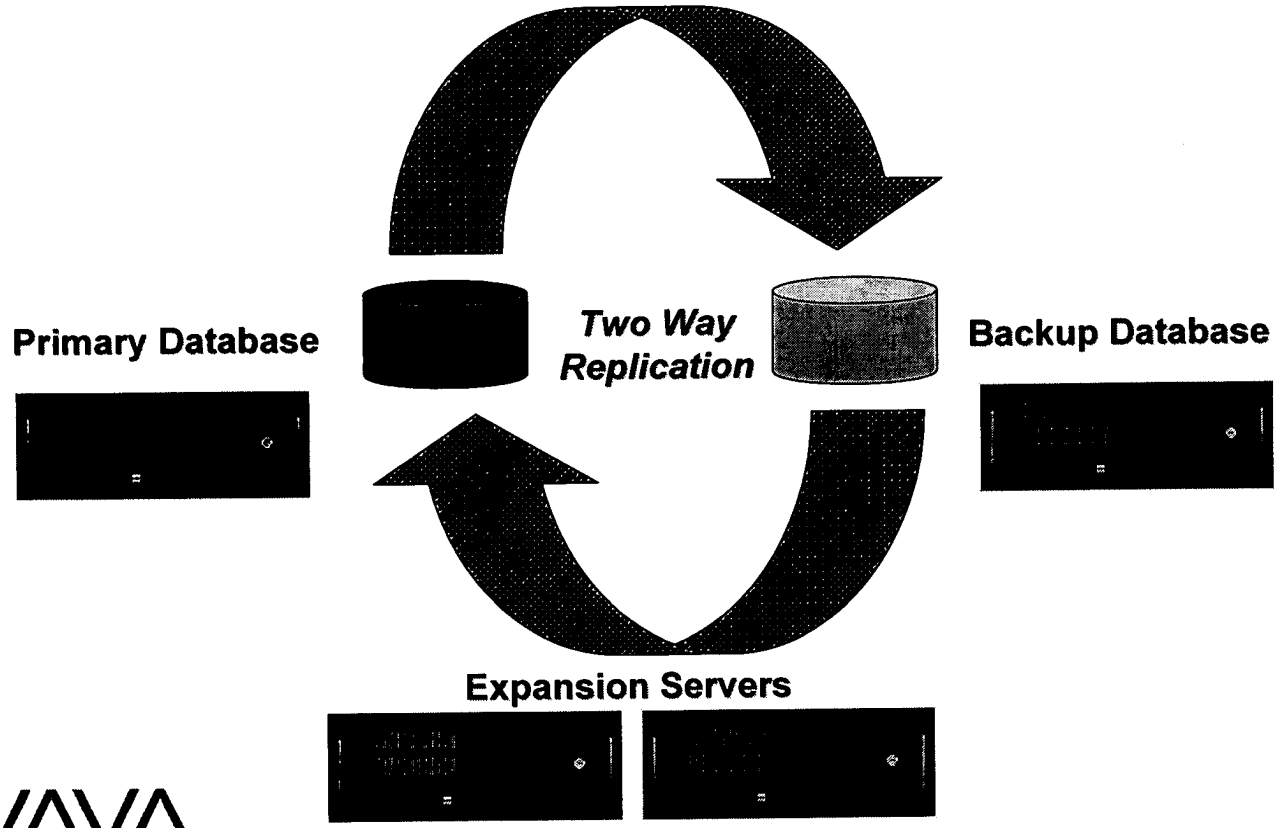
AVAYA communication

Fault Tolerance



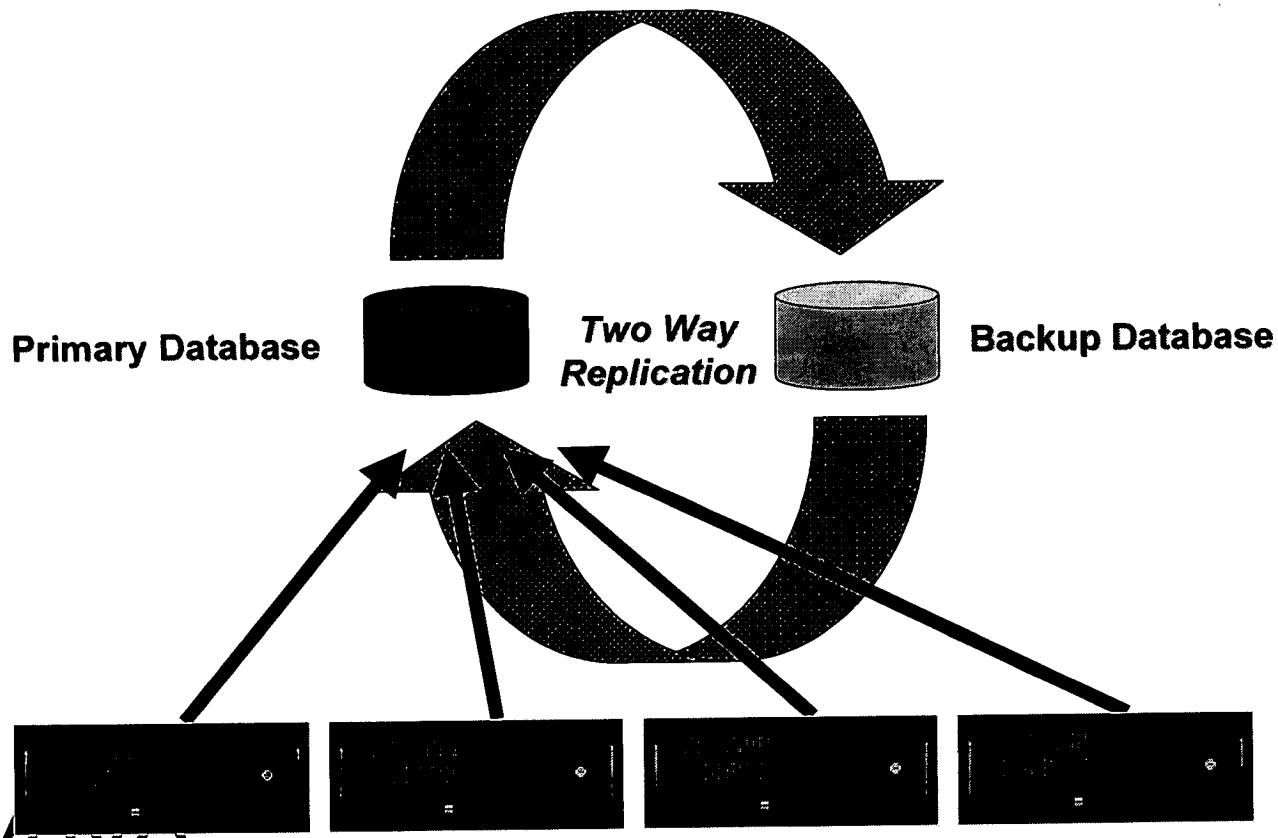
AVAYA communication

Fault Tolerance



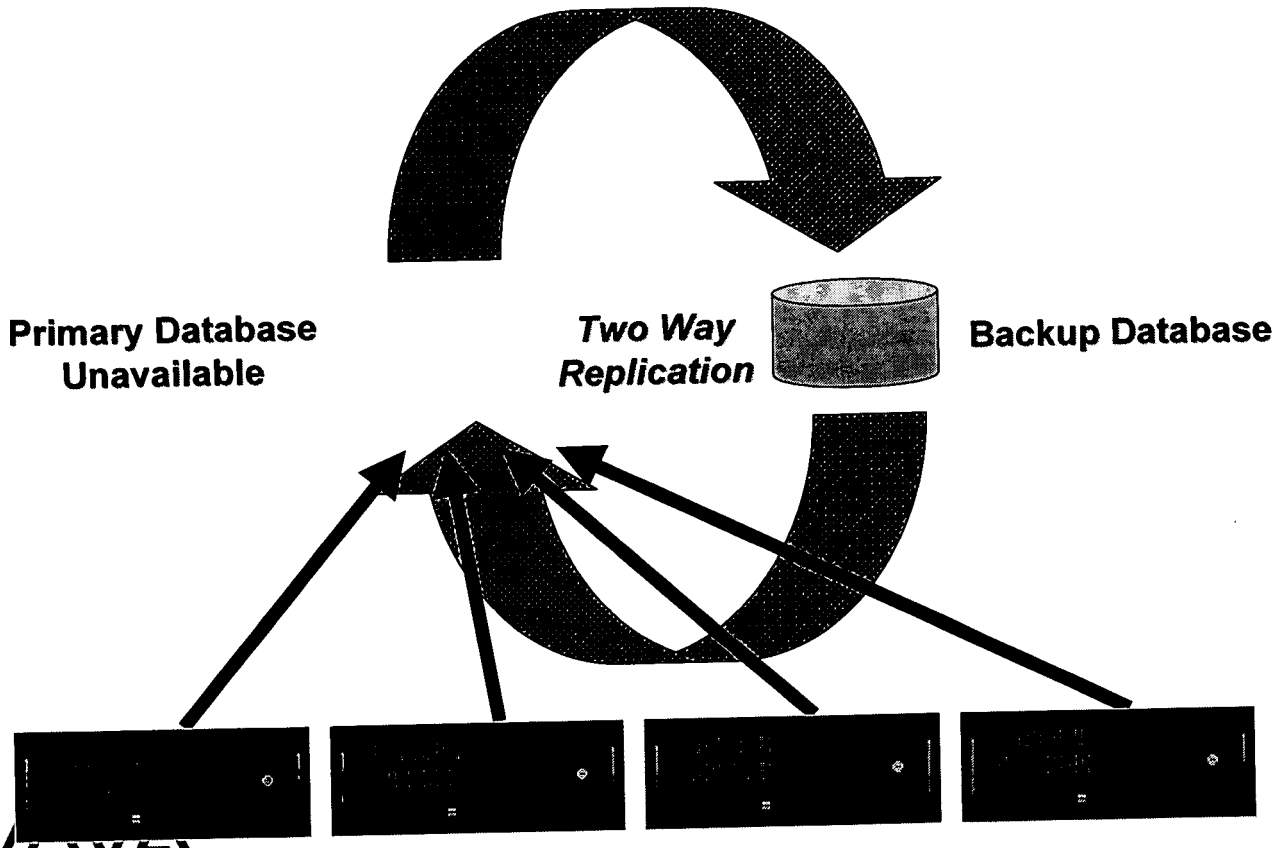
AVAYA communication

Fault Tolerance



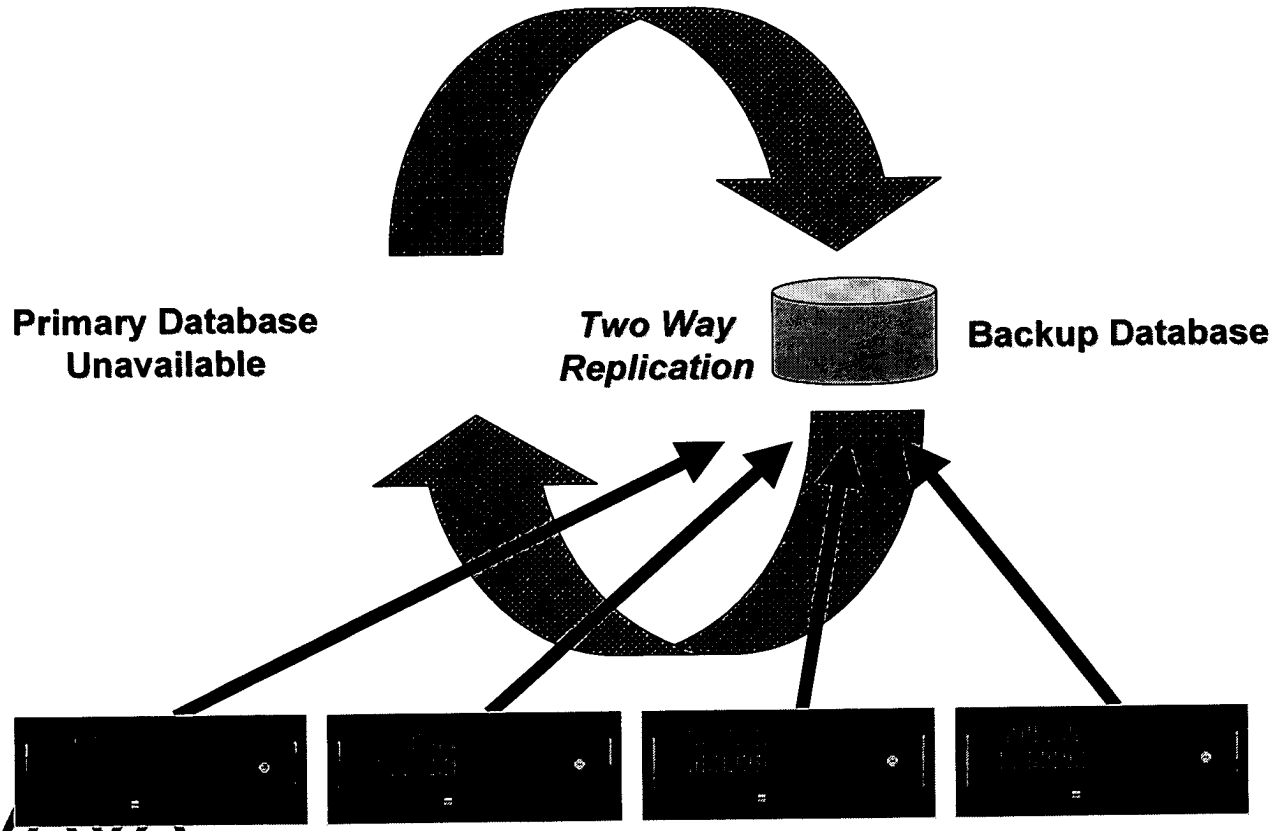
AVAYA
communication

Fault Tolerance



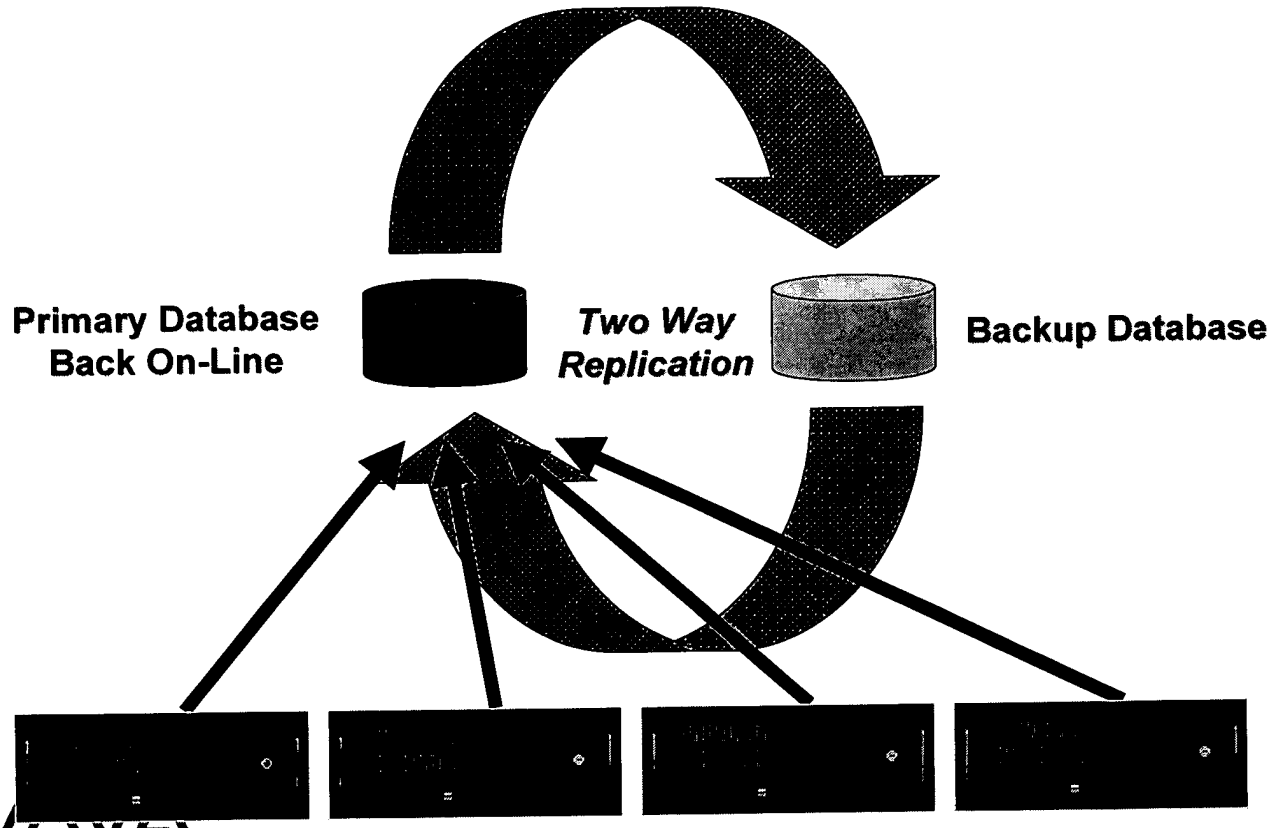
AVAYA communication

Fault Tolerance

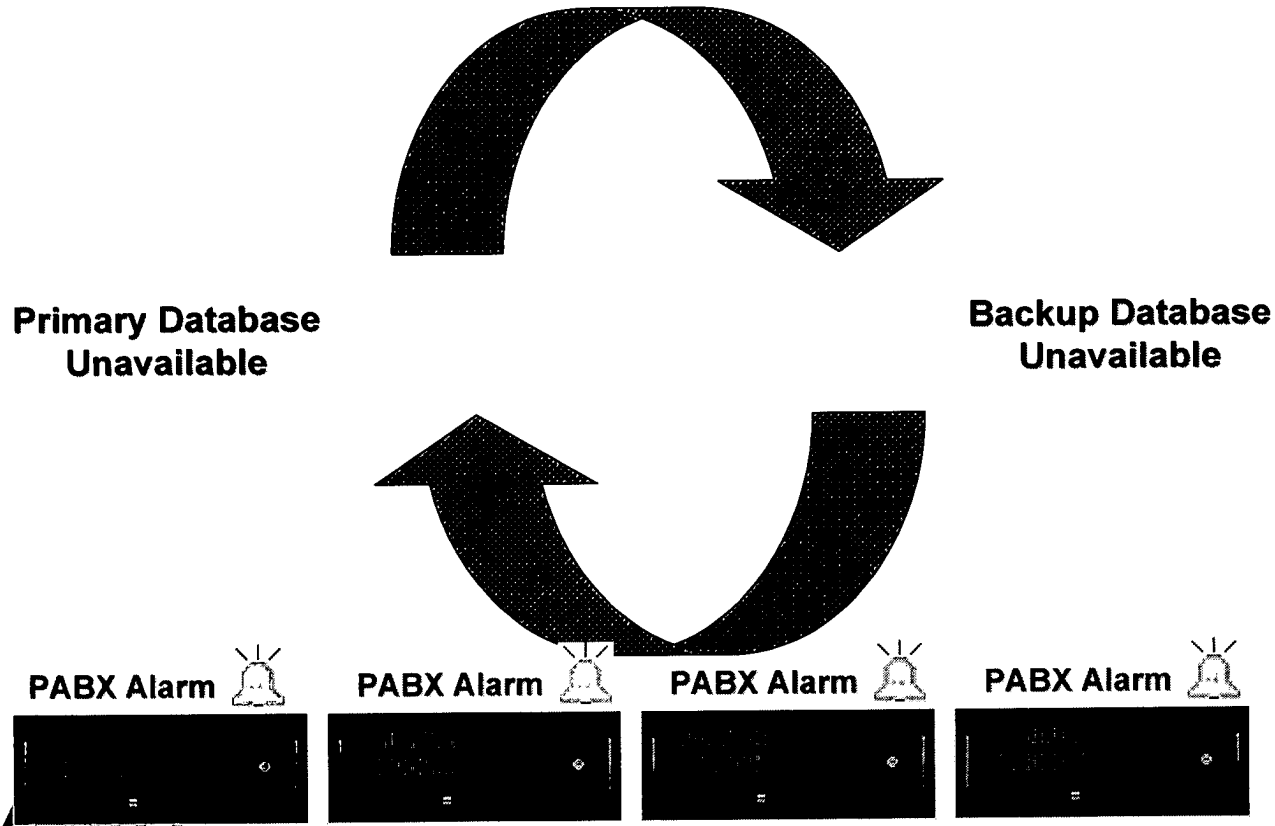


AVAYA
communication

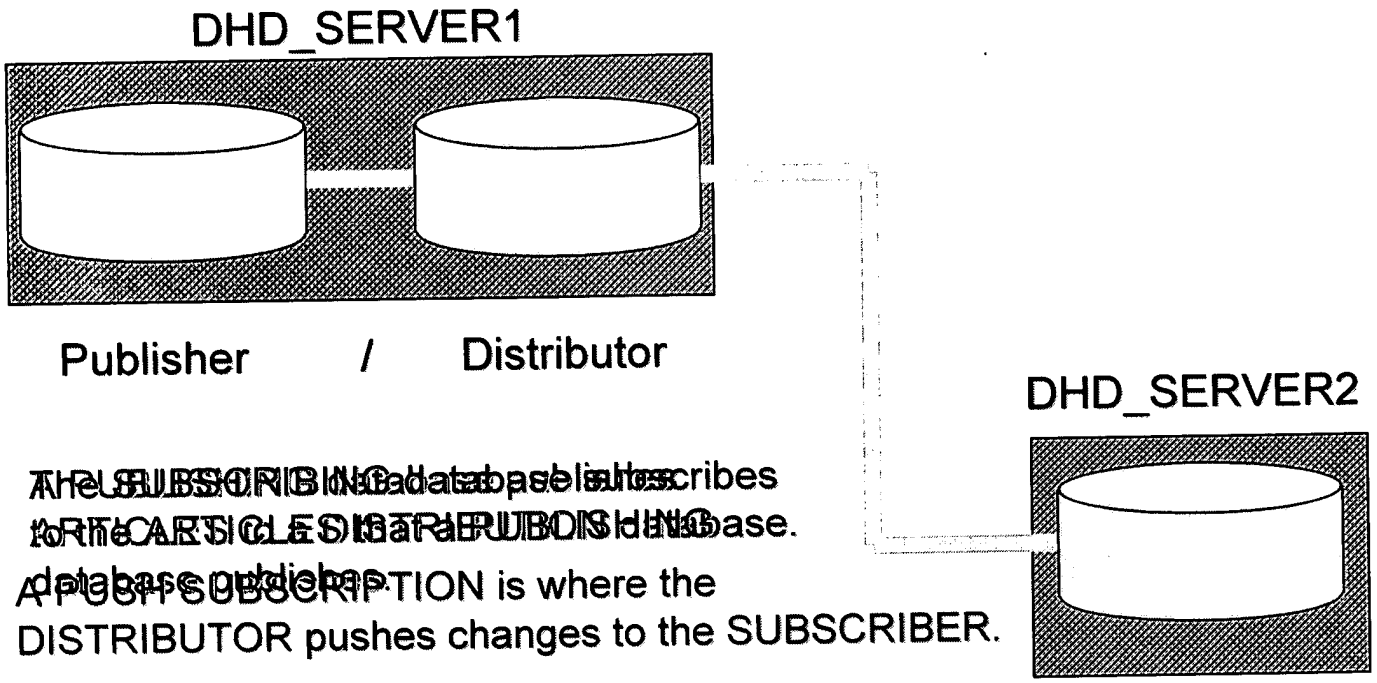
Fault Tolerance



Fault Tolerance



Terminology

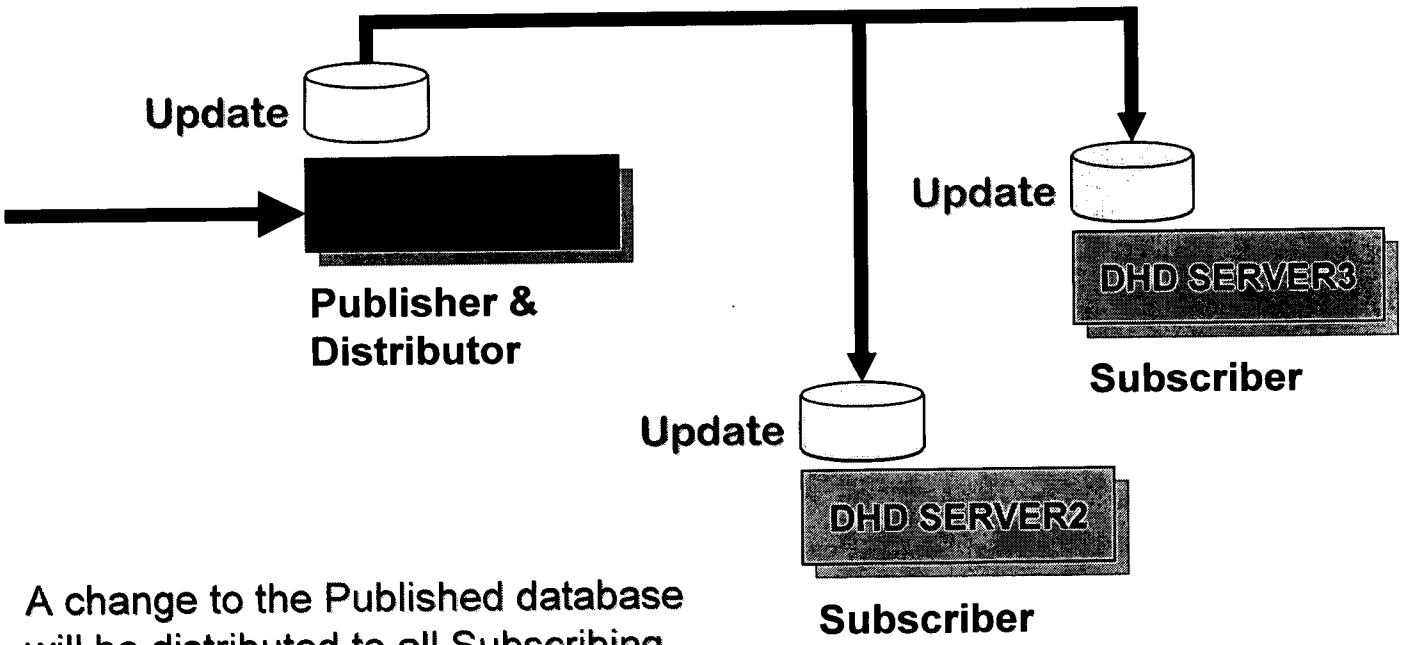


A SUBSCRIPTION database subscribes to the ARTICLES that a PUBLISHING database publishes.

A PUSH SUBSCRIPTION is where the DISTRIBUTOR pushes changes to the SUBSCRIBER.

AVAYA communication

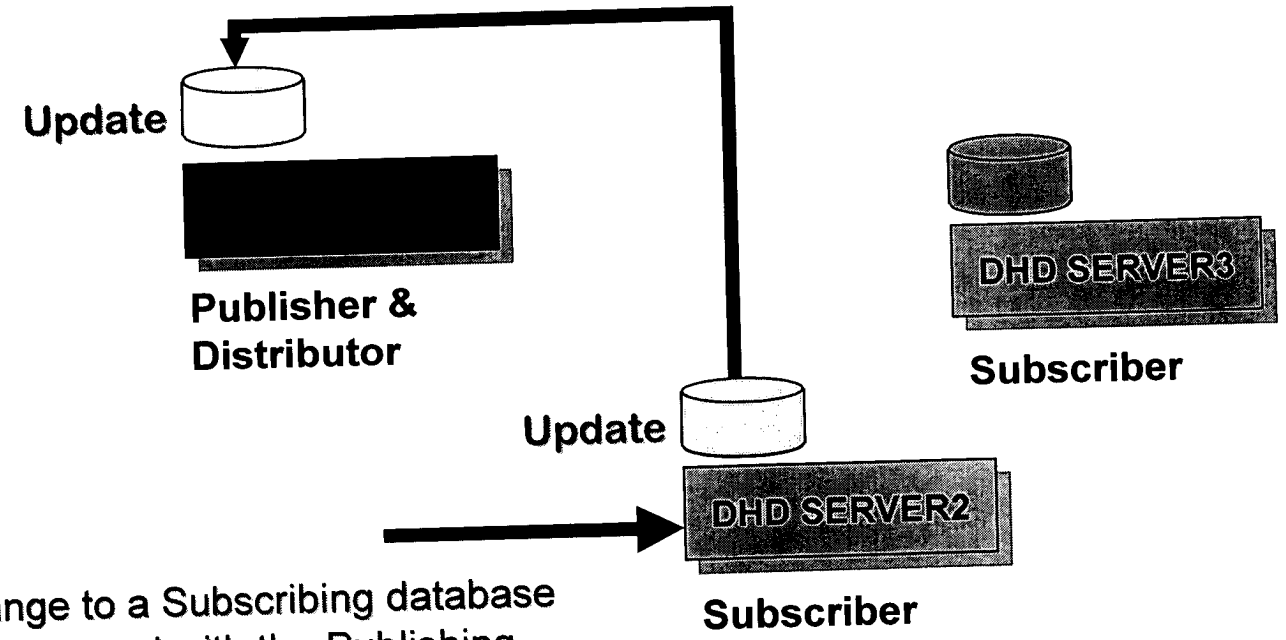
Merge Replication



A change to the Published database will be distributed to all Subscribing servers.

AVAYA communication

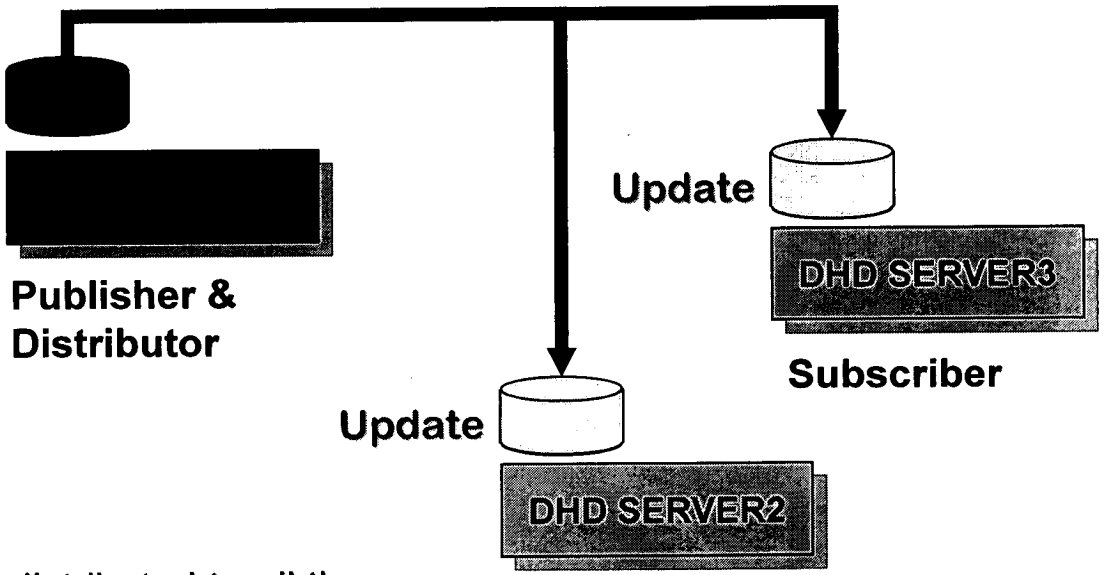
Merge Replication



A change to a Subscribing database will be merged with the Publishing database..

AVAYA communication

Merge Replication



And is then distributed to all the Subscribing servers.

AVAYA communication

Agenda

Definitions

Features

Architecture

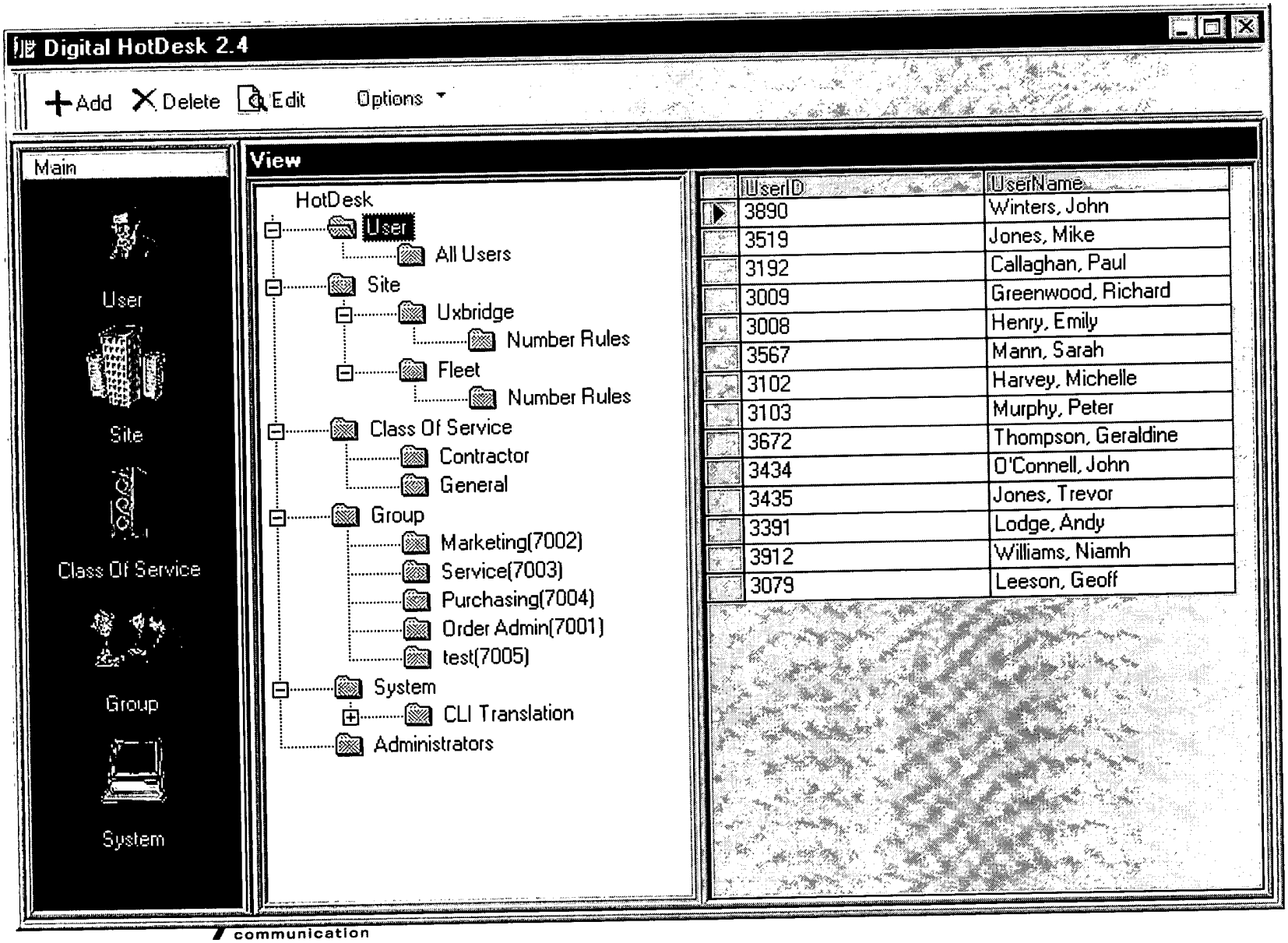
- Integration/Connectivity
- Replication (Database Redundancy)

Administration

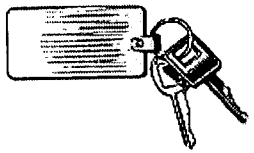
AVAYA communication

ADMINISTRATION

AVAYA communication


Digital HotDesk 2.4
Add
Delete
Edit
Options
Main
User
Site
Class Of Service
Group
System
View
HotDesk
User
All Users
Site
Uxbridge
Number Rules
Fleet
Number Rules
Class Of Service
Contractor
General
Group
Marketing(7002)
Service(7003)
Purchasing(7004)
Order Admin(7001)
test(7005)
System
CLI Translation
Administrators
UserID
UserName
3890 Winters, John
3519 Jones, Mike
3192 Callaghan, Paul
3009 Greenwood, Richard
3008 Henry, Emily
3567 Mann, Sarah
3102 Harvey, Michelle
3103 Murphy, Peter
3672 Thompson, Geraldine
3434 O'Connell, John
3435 Jones, Trevor
3391 Lodge, Andy
3912 Williams, Niamh
3079 Leeson, Geoff
communication

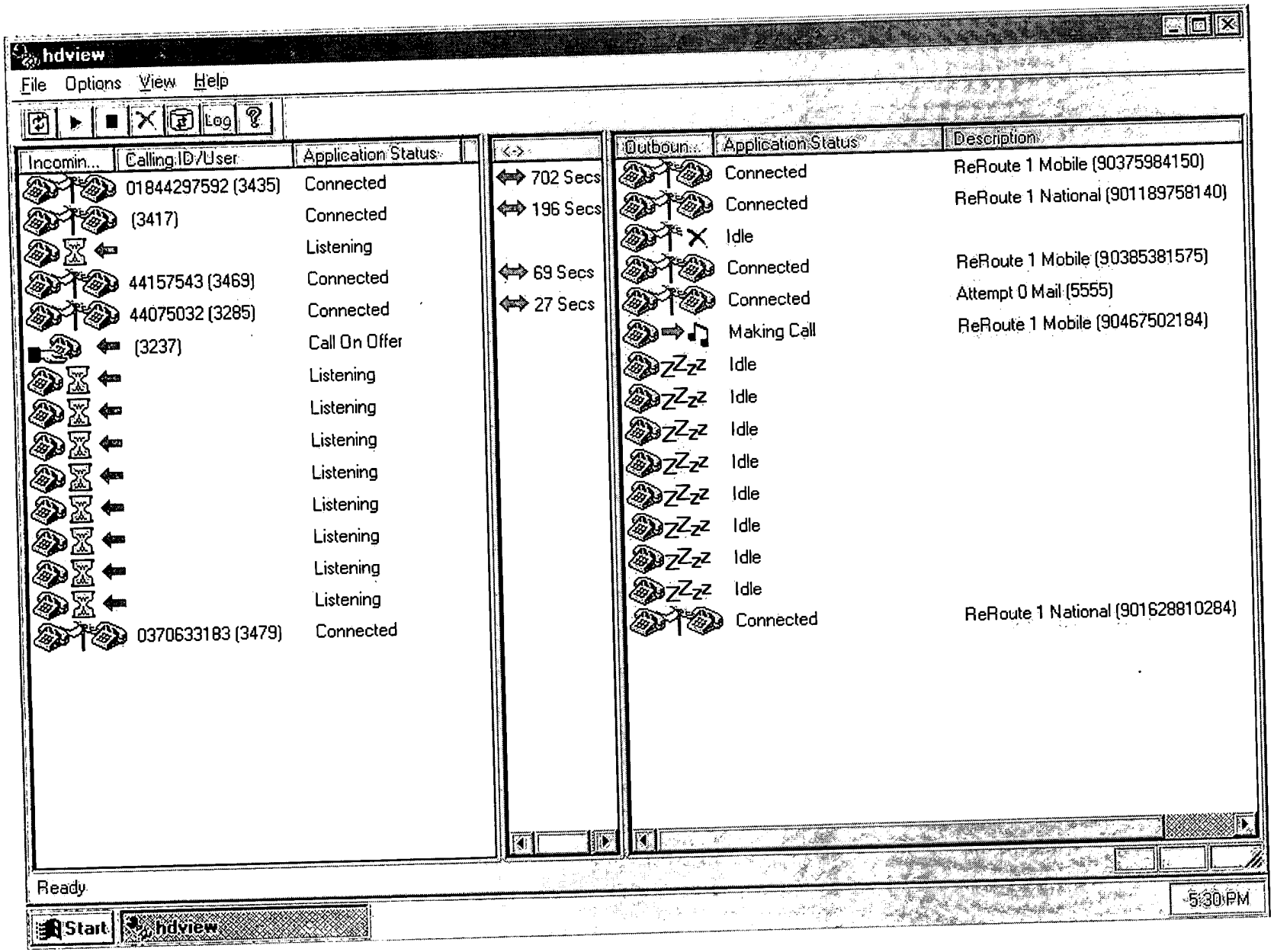
Administration GUI



5 levels of Administration Access

- User
- Group
- Class of Service
- Site
- System

AVAYA communication


hdview
File Options View Help
Log
Incomin... Calling ID/User Application Status
01844297592 (3435) Connected
(3417) Connected
Listening
44157543 (3469) Connected
44075032 (3285) Connected
(3237) Call On Offer
Listening
Listening
Listening
Listening
Listening
Listening
Listening
Listening
0370633183 (3479) Connected
<->
702 Secs
196 Secs
69 Secs
27 Secs
Outboun... Application Status Description
Connected ReRoute 1 Mobile (90375984150)
Connected ReRoute 1 National (901189758140)
Idle
Connected ReRoute 1 Mobile (90385381575)
Connected Attempt 0 Mail (5555)
Making Call ReRoute 1 Mobile (90467502184)
Idle
Idle
Idle
Idle
Idle
Idle
Idle
Idle
Connected ReRoute 1 National (901628810284)
Ready
Start
hdview
5:30 PM

11